

# The Mining Journal.

## RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 1501.—Vol. XXXIV.

LONDON, SATURDAY, MAY 28, 1864.

[STAMPED.....SIXPENCE.  
[UNSTAMPED.....FIVEPENCE;

**MR. JAMES CROFTS, SHAREBROKER,**  
No. 1, FINCH LANE, CORNHILL.  
Mr. Crofts transacts business in the way of PURCHASE or SALE, in every description of stocks, but particularly in BRITISH MINES, in no case departing from the position of a broker, at net prices. All orders must be with the utmost punctuality and care, and advice given as to the nature and eligibility of INVESTMENTS, when required. Mr. Crofts, from a lengthened experience of the Mining Market, is competent to advise as to the merits of any mine, and the desirability of buying, selling, or exchanging shares. To the latter department he devotes particular attention.  
FOR SALE:—5 Brynford Hall, £11 18 9  
\* \* SHARES TO BUY:—Bedol-Aur, Cefn Cilcen, Pentre Lygan.

**MR. JAMES LANE, No. 44, THREADNEEDLE STREET, LONDON, E.C.**  
JAMES LANE has FOR SALE at net prices:—5 Basset and Grylls, £12½; 50 Crebore, £12½; 10 Caradon United, 30s.; 50 Crenver and Abraham, 40s.; 20 Drake Walls, 30s.; 50 East Jane, 42s.; 10 East Carn Brea, £6½; 50 East Providence, 20 Great Wh. Bay, £2½; 10 East Lovell, £20½; 5 Grahmer and St. Aubyn, 100 Hearle, 4s.; 20 Hallenbeagle, £1; 5 Great Fortune, £15½; 5 Mary Ann, £12½; 40 Mollard, 2s. 6d.; 10 Macke Valley, £5; 5 Nangles, 60 New Wheel Marthas, £1½; 55 New Birch Tor and Vistler, £2½; 60 New Wheel Rose, 15s. 6d.; 10 North Trekerby, £2½; 25 New South Caradon, 11s.; 25 North Jane, 1s. 6d.; 15 Pendene, £5; 50 St. Just Consols, 14s.; 50 St. Day United, 32s. 6d.; 20 Sithney and Carmuel, 20 Treworla, £2; 3 Treilawny, £2½; 10 Kitty (St. Agnes), £2½; 5 Wentworth Consols, £1½; 2 West Seton, £1½; 20 Wheel Grenville, £2½.

**SHAREHOLDERS IN MINES AND CAPITALISTS**  
will do well to READ PETER WATSON'S WEEKLY MINING CIRCULAR of Friday, 20th May (yesterday), No. 323, Vol. VIII. Price 6d. each copy (post paid). Forwarded on application. In this Circular there are three valuable mines mentioned, which are certain to pay good interest, and the price of shares greatly and quickly advanced in market value.—79, Old Broad-street.

**PETER WATSON'S WEEKLY MINING CIRCULAR AND SHARE LIST,** published every Friday, price 6d. each copy, forwarded on application. This Circular contains weekly important information with respect to all the principal dividend and progressive mines in Devon and Cornwall.  
79, Old Broad-street, London, E.C.

**STOCK AND SHAREDEALER.—MR. PETER WATSON,**  
ENGLISH AND FOREIGN STOCK, SHARE, AND MINING OFFICES, 79, OLD BROAD-STREET, LONDON, E.C.  
TELEGRAPHIC MESSAGES TO BUY or SELL Railway, Bank, Mine, and other Shares and Stocks, punctually attended to on commission, or at net prices for cash, or for fortnightly settlements, with advice as to purchases or sales.  
Nineteen years' experience.  
(Two in Cornwall and Seventeen in London.)

Bankers: Union Bank of London, and the Alliance Bank of London and Liverpool.  
Every information can be obtained on personal application or by letter, as to purchases and sales of mine and other shares, and the best investment for capital.  
From the close proximity of his Offices to the Stock Exchange, as well as the Mining Exchange, PETER WATSON is enabled to act with promptitude on all orders entrusted to him, which at all times are carried out with punctuality, and to the best advantage of his clients.—May 27, 1864.

**EAST WHEEL LOVELL.**—When the shares in this mine were selling at a third of the present price, I called particular attention to this property, and I still recommend a purchase of the shares. The agent in his report this week, I understand, values the several points together at 470l. to 510l. per fm.  
79, Old Broad-street, London, E.C., May 27.

**MR. LELAND, STOCK AND SHAREDEALER,**  
11, ROYAL EXCHANGE, LONDON, E.C.  
Shares bought and sold on the usual commission. Telegraphic messages promptly attended to. Mines inspected, and reliable information given. Established 15 years.  
Mr. LELAND strongly recommends the purchase of Great South Chiverton at present prices. See report of the agent in another column.  
BUYER of Great Laxey shares.  
May 27, 1864.

**JAMES HUME, SHAREBROKER, 74, OLD BROAD STREET, AND MINING EXCHANGE, LONDON, E.C.**  
J. Hume's Circular for May now ready. Price 6d.; subscription, 6s. per annum.  
EAST LOVELL.—Business done on cash or account in these shares.  
Bankers: London Joint-Stock Bank.

**WILLIAM ALLISON, STOCK, SHARE, AND MINING BROKER, 29, AUSTINFRIARS, LONDON, E.C.**  
Orders to buy or sell, accompanied by references, punctually attended to.

**GEORGE RICE, SHAREBROKER, 5, COWPER'S COURT, BIRCHIN LANE, LONDON, (21 years' experience), has SPECIAL BUSINESS, as BUYER or SELLER, on cash or account, in the following mines:—**  
Closing quotations.  
Chiverton ..... £11-11½  
Clifford Amalgamated ..... 33½-34  
Devon & Bedford (Coplehar), 12s. 6d. prem. 23½-3  
East Lovell ..... 19-19½ x d  
East Rosewarne ..... 3-3½  
East Russell ..... 28½-28¾  
East Seton ..... 8½-7½  
East Carn Brea ..... 4½-4¾  
East Grenville ..... 33½-34  
Wheal Grenville.—A call of 5s. per share was made yesterday, and shares close 28½ sellers, call paid. My advice (although strongly impugned but a few weeks since) is now more than confirmed.  
EAST LOVELL £19 to 19½, ex dividend. Time tries all. A few months longer and the public will find out who were the "true" or the "false" prophets of this mine.  
Money advanced on mining shares.  
Bankers: Bank of London.  
May 27, 1864.

**MR. G. D. SANDY, SHAREDEALER, No. 48, THREADNEEDLE STREET, LONDON, E.C.**  
FOR SALE:—  
20 East Carn Brea, £7½.  
2 East Basset, £66½.  
20 East Grenville, £2½.  
60 Wheel Grenville, £2½ (call paid).  
10 Great Fortune, £15.  
20 Great Bury, £3 18s 9d.  
20 Hallenbeagle, £3 18s 9d.  
20 North Crofty, £4½.  
20 Central Miners, 34s.  
3 Clifford Ameal, £24½.  
EAST LOVELL.—I strongly recommended this mine in August last year, when the shares could be obtained at about £4 each; it has since paid 1½. 2s. per share in dividends, including 10s. per share made yesterday at the meeting. The prospects of the mine have continued steadily to improve, and there is every indication of a lasting dividend property; shares are cheap at present price, £20 to £20½.  
A correct daily price list will be forwarded on application.  
Business transacted at the closest market prices.

**MR. J. P. ENDEAN, STOCK AND SHAREBROKER,**  
1, CROWN COURT, OLD BROAD STREET, LONDON, E.C.  
Having had 25 years' experience in the mining districts of Devon and Cornwall, and three in the London market, with daily information of important changes from qualified agents, also the most authentic reports relating to other investments, he is in a position to afford the earliest information to his clients, and to direct capitalists whether to buy or sell in mines, railways, or other securities.  
Investors should apply to him for reliable information relative to the Chiverton Mines, also the Camborne and Hlogan districts.  
A carefully selected list of sound progressive and dividend shares (certain to give a large percentage immediately) forwarded on receipt of 5s. in stamps.  
Orders and telegrams receive immediate attention.

**MR. GEORGE BUDGE, SHAREBROKER, No. 4, ROYAL EXCHANGE BUILDINGS, LONDON, E.C. (Established 17 years), has FOR SALE at net prices:—**  
40 Wheel Grenville, £8½; 35 North Crofty, £1½; 1 West Daniel, £26; 50 Great Bury, £3½; 5 Herodfoot, £40; 35 Sithney Wheel Metal, £3½; 2 Wheel Seton, £230; 50 East Russell, £3½; 60 Chiverton Moor, £4½; 15 Great Wheel Vor, £33½; 10 West Chiverton, £7½; 50 Okef Tor; 200 Vale of Towry, 6d.; 100 Garreg, 5s.; 5 New Devon, £2½; 150 Don Pedro, 13s. 9d.; 150 Santa Barbara, 1s. 8d.; 200 Anglo-Brazilian; 100 Nova Scotia, £3; 50 North Pool; 50 Gawton, 21s.; 15 Rosekarnoweth, £2½; 60 Trimble Hall, 15s.; 150 East Bottle Hill, 2s. 9d.; 35 West Seton, 6s.; 50 Chiverton Valley, £5½; 5 North Miners (Preference), 9s.; 200 Hartley, 25s. 6d.; 25 East Vor; 50 West Metal, £2½; South Caradon Wheel Hooper, 8s. 6d.; 75 Trumpet United, 5s.; 50 Merilyn, 6s. 9d.; 100 East Rosewarne; 75 West Maria and Truques; 50 East Trekerby, £3; 150 Mollard, 2s. 9d.; 150 Calstock Consols, 7s.; 5 Treilawny; 1 Miners, £290; 50 North Frances, 20s.

**GEORGE MOORE,**  
1, CROWN COURT, THREADNEEDLE STREET.  
In any business that GEORGE MOORE is favoured with, in which he is the buyer, he will give CASH ON RECEIPT OF TRANSFER.

**JAMES HERRON has FOR SALE the following SHARES, at the prices quoted, and FREE OF COMMISSION:—**  
100 Anglo-Brazilian, 8s.  
50 Aberffraw, £1½.  
30 Bedol-Aur, £1½.  
10 Bryntal, £1½.  
5 Brynford Hall, £11 18 9  
5 Clifford Amalgamated, £24½.  
5 Cook's Kitchen, £18.  
3 Cwm Erfin, £27½.  
5 Chiverton, £20.  
2 Carn Brea, £60.  
1 Caradon Consols, £10.  
40 Crenver Abraham, £10.  
10 Crowm, £10.  
10 Central Miners, 25s.  
5 Chiverton Valley, £5.  
100 Carneloe Consols.  
20 Camborne Veau, £2 17 6  
10 Chiverton Moor, £4 18 9  
4 Dale, 10s. 6d.  
160 Don Pedro, 12s. 9d.  
30 Drake Walls, 30s.  
5 East Carn Brea, £7 2 6  
10 East Russell, £3 12s 6d  
5 East Lovell, £20.  
20 East Grenville, £4 11s 3d  
5 East Vor, £2½.  
50 East Botalack, £14½.  
20 East del Rey, 12s. 9d.  
5 East Grylls, £14½.  
5 East Caradon, £28½.  
5 East Rosewarne, £3.  
5 St. Wh. Vor, £34½.  
10 Great Bury, £3 17s 6d  
5 Great Fortune, £14½.  
14 Great Caradon, £14½.  
50 Great Moelwyn, £14½.  
20 Great Devon & Bedford, £14½.  
10 Great No. Downs, £25½.  
10 Grylls Consols, £5.  
And is a BUYER of 1 Devon Great Consols, 50 North Pool, 20 East Grenville, 5 Spearhead Moor, 2 West Chiverton, and 100 Vale of Towry.  
2, Adam's-court, Old Broad-street, May 27, 1864.

**MESSRS. VIVIAN AND REYNOLDS, 37, OLD BROAD STREET, LONDON, E.C., MINING ENGINEERS, INSPECTORS OF MINES, COMMISSION, AND GENERAL AGENTS for the PURCHASE or SALE of MINES, SHARES, RAILWAY, and EVERY OTHER DESCRIPTION OF STOCK.**  
Commission on share transactions 1½ per cent. on £100 and above, and 2½ per cent. on less sums.

**MR. EDWARD COOKE, MINING SHAREBROKER,**  
75, OLD BROAD STREET, LONDON, E.C. Reliable information given on application, relative to the merits of mines, either for speculation or investment.  
Mr. EDWARD COOKE having visited East Lovell Mine during the week, will be very happy to afford reliable information relative to the same.  
May 27, 1864. Bankers: Alliance Bank, Lothbury.

**MR. GEORGE BATTERS** strongly recommends his friends to buy Tincroft, West Chiverton, Chiverton, Herodfoot, South Caradon, Devon Great Consols, Great Wheel Vor, Chiverton Valley, Prosper United, Wentworth Consols, and Sithney Wheel Metal for investment. These shares will pay good interest for money at present quotations.—76, Old Broad-street, E.C.

**MR. J. W. GILBERT, MINE SHAREBROKER,**  
1, PINNER'S COURT, OLD BROAD STREET, LONDON.

**MR. JOHN R. PIKE, GENERAL SHAREDEALER,**  
OFFERS his SERVICES to INVESTORS.  
3, PINNER'S COURT, OLD BROAD STREET, LONDON.

**MR. THOS. THOMPSON, MINING OFFICES,**  
12, OLD JEWRY CHAMBERS, LONDON, E.C.

**THOMAS HAMILTON (late of Truro), STOCK AND SHAREBROKER,**  
4, AUSTINFRIARS, OLD BROAD STREET, LONDON, E.C.  
Mine shares bought and sold on the usual commission.

**MR. WM. BIRDSEY, MINE AND SHAREBROKER,**  
No. 2, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C.

**RICHARD CLIFT, MINE SHAREDEALER,**  
late of Redruth, now 48, THREADNEEDLE-STREET, LONDON, where all letters are to be addressed.

**MR. E. GOMPERTS, MINING OFFICES,**  
3, CROWN CHAMBERS, THREADNEEDLE STREET, LONDON, E.C.  
BUSINESS TRANSACTED IN BRITISH AND FOREIGN STOCKS AND SHARES.  
Terms, 1¼ per cent. Bankers: London and Westminster Bank.

**MR. H. WADDINGTON, MINING AND SHAREBROKER,**  
20, THROGMORTON STREET, LONDON, E.C.  
Shares in railways, mines, &c., bought and sold on the usual commission.

**JOHN RISLEY, 32, LOMBARD STREET, LONDON, E.C.,**  
SHARES IN MINES BOUGHT and SOLD on commission, at 1¼ per cent., for immediate cash. Bankers: London and Westminster, Lothbury.

**WILLIAM SEWARD, MINING BROKER, STOCK AND SHAREDEALER, 10, THROGMORTON STREET, LONDON, E.C.**  
Commission, 1¼ per cent. on all transactions.

**MR. T. ROSEWARNE, 81, OLD BROAD STREET, LONDON, E.C., has FOR SALE:—**  
Bronfloyd, £2½.  
Birch Tor, £2½.  
Chiverton, £11½.  
Clifford, £24½.  
Great No. Downs, £24½.  
East Russell, £3½.  
North Robert, 4s.  
East Grenville, £4½.  
North Downs, 25s.  
Boscawen.  
T. ROSEWARNE should be consulted immediately respecting East Lovell and Great Laxey Mines.  
East Caradon, £29.  
East Lovell, £19½.  
East Vor, £2½.  
Great Laxey, £24.  
Great No. Downs, £25½.  
Great Vor, £34.  
Hingston, £23½.  
Hallenbeagle, £33½.  
Nangles, £20½.  
Wheal Seton, £237½.  
Wheal Grenville, £25½.  
West Vor, £3.  
Brigan, 20s.  
Treweatha, 6s. 6d.  
St. Day United, 31s.  
Nangles, £29½.

**MR. JOHN B. REYNOLDS has REMOVED from 37, Old Broad-street, to 54, THREADNEEDLE STREET, and is commissioned to SELL the FOLLOWING SHARES:—**  
2 Vigna and Clogau.  
25 Crown Consols.  
50 West Jane.  
30 St. Just Con., 15s. paid.  
50 ditto 20s. paid.  
50 Silver Vein.  
100 West Martha.  
40 Clara United.  
30 Penraut.  
50 Rhafna, 10s. paid.  
25 Great Retallack.  
5 Basset and Grylls.  
25 East Basset & Grylls.  
May 27, 1864.

**MR. MATTHEW GREENE, SHAREDEALER,**  
27, AUSTINFRIARS, E.C., has SPECIAL BUSINESS in the FOLLOWING SHARES:—  
85 East Rosewarne, £2½. 25 Great Laxey, £14½. 10 East Caradon, £29½.  
60 Wheel Crebore, 44s. 10 Chiverton, £11½. 1 Great Vor, £38.  
Bankers: London and County Bank.

**MESSRS. WARD AND JACKMAN, STOCK AND SHAREBROKERS, 2, ADAM'S COURT, OLD BROAD STREET, AND MINING EXCHANGE, LONDON, E.C. (ESTABLISHED ELEVEN YEARS.)**  
TRANSACT BUSINESS IN BRITISH AND FOREIGN MINING SHARES and OTHER SECURITIES at closest prices, net or on commission, but not being DEALERS only execute orders confined to them.  
Telegraphic messages to buy or sell shares of every description promptly executed for immediate cash, or the fortnightly settlements.  
Commission, 1¼ per cent. on all transactions.  
May 27, 1864. Bankers: London and Westminster, Lothbury.

**POSTPONEMENT OF SALE OF MINING SHARES, BY PUBLIC AUCTION.**  
**MR. T. P. THOMAS'S SALE OF MINING SHARES,** advertised for Thursday, the 26th inst., is POSTPONED to THURSDAY, the 24th day of June next.

**MR. T. P. THOMAS** has been favoured with instructions to SELL, BY PUBLIC AUCTION, at Garraway's Coffee-house, Change-alley, Cornhill, London, on Thursday, the 24th day of June next, at One o'clock precisely, the following VALUABLE MINING SHARES, viz:—

159 shares in Great Moelwyn Slate Co. (Limited), forfeited for non-payment of calls.  
200 St. Just United.  
100 Craney.  
375 West Condurrow.  
50 North Pool.  
30 Wheel Unity.  
Great Caradon.  
Wheal Agar.  
10 Tolvadden.  
20 North Trekerby.  
75 New Treleigh Consols.  
40 Baller and Basset.  
25 Charlotte United.  
40 Hartley.  
50 Wh. Eather (Bodmin).  
35 East Gunnis Lake.  
115 North Robert.  
10 West Stray Park.  
45 St. Ives Wheel Allen.  
20 East Caradon Brea.  
50 Hlogan Mine.  
35 New Treleigh.  
100 West Trevelyan.  
40 South Caradon Hooper.  
50 Rosken.  
100 Merilyn.  
10 Gonnema.  
11 Craddock Moor.  
30 Bedford United.  
2 Ding Dong.  
13 East Margaret.  
5 Bryn Gwily.  
25 Nant-y-Iago.  
16 Leilant Consols.  
25 North Basset.  
15 Tolcarne.  
6 Stray Park.  
2 West Caradon.  
11 South Carn Brea.  
50 Crenver Wheel Abraham.  
1 Carn Brea.  
50 Roaring Water.  
1 Cardigan Consols, £2½.  
4 Great Devon & Bedford (Colcharton), £14½ paid.  
5 St. Just Cons., 15s paid.  
1 Wheal Ludcott.  
10 Cape Cornwall, 15s paid.  
60 Garrow.  
20 Gwydyr Park.  
40 Wheal Hearle.  
100 Wheel Crofty.

For particulars, &c., of Great Moelwyn Slate Company (Limited), apply to Mr. J. WARD, 12, Cophall-court, E.C.

For catalogues and particulars of sale, apply to Garraway's; the Jamaica Coffee-house, Cornhill; the Mining Journal office, 26, Fleet-street; and at the office of the auctioneer, 2, Crown-court, Threadneedle-street, E.C.

**MR. T. P. THOMAS** has been favoured with instructions to SELL, BY PUBLIC AUCTION, at Garraway's Coffee-house, Change-alley, Cornhill, London, on Thursday, the 24th day of June, 1864, at One o'clock, in one lot, and subject to the conditions which will be then and there produced and read, the above VALUABLE MINE and MATERIALS forming the whole of the plant or property of the adventurers in, upon, and belong to the above mine.

Further particulars, conditions of sale, &c., may be had of ELLIOTT SQUARE, Esq., 6, Finsbury Chambers; G. A. COPE, Esq., 3, Adelaide-place, London-bridge; and the Auctioneer, 2, Crown-court, Threadneedle-street, London, E.C.

**MR. T. E. W. THOMAS, MINING AGENT AND GENERAL SHAREBROKER, 2, PINNER'S COURT, OLD BROAD STREET, LONDON.**  
Mr. T. E. W. THOMAS strongly recommends the purchase of Wheal Grenville shares at present rates.

**MR. FRANCIS G. LANE, No. 2, ROYAL EXCHANGE, LONDON, E.C., has the following SHARES FOR SALE:—**  
25 Wh. Grenville, £8 15s.  
25 East Grenville, £4 11 s  
50 Dale, 11s.  
20 East Carn Brea, £7½.  
10 East Lovell, £20½.  
5 Vigna & Clogau, £22½.  
5 Cargoli, £22½.  
25 Great Laxey, £14½.  
3 Calvadaack, £5.  
10 Sithney Metal, £3½.  
20 N. Wh. Martha, 25s 6d  
50 St. Just Consols, 11s.  
20 Hingston, £23½.  
25 Hallenbeagle, £4.  
50 Great Devon & Bedford, ½ prem.  
20 Grylls Wheel Florence, £2½.  
25 Wheel Edward, 24s. 6d.

BUYER of Great Laxey at £14, Chiverton at £11, and Hallenbeagle at £23½.  
Bankers: London and County Bank.

**MR. WILLIAM WARD (late with Messrs. Dunsford and Ranken), SHAREBROKER, 29, THREADNEEDLE STREET, LONDON, E.C.**

**MR. WALTER TREGELLAS, STOCK AND SHAREBROKER,**  
12, ST. MICHAEL'S ALLEY, CORNHILL, LONDON, E.C.

**JOSEPH GREGORY, STOCK AND SHAREBROKER,**  
2, HATTON COURT, THREADNEEDLE STREET, LONDON, E.C.  
Commission on purchase and sale of mining shares, 1¼ per cent.  
Bankers: City Bank.

**WHEAL CARADON MINE.—FOR SALE, FORTY-FIVE and THIRTY SHARES** in this admirably situated property, at the low price of £2 12s. 6d. per share. AN OFFER WANTED for 10 Wheel Emma.—Apply to Mr. THOMAS GORSE, 1, Longmead-buildings, Bath.

**DIVIDEND TEN PER CENT. PER ANNUM.—TO BE SOLD, FIVE HUNDRED SHARES** (of £1 each, fully paid-up), at par, in the WIGLISCOMBE SLATE COMPANY (LIMITED).—Apply to Mr. RUNDALL, 43, Moorgate-street, City.

**AN ASSAYER, of good PRACTICAL EXPERIENCE, WANTS a SITUATION.** Good references, &c.—Address to "X," Post-office, Lymington, Hants.

**WANTED, a 24 in. WINDING AND STAMPING ENGINE.** Particulars to be forwarded to Mr. THOMAS HOLLOW, Lelant, Hayle. March 28, 1864.

**STEAM ENGINE.—WANTED, for the GREAT LAXEY MINING COMPANY, ISLE OF MAN, a 20 in. HORIZONTAL HIGH PRESSURE ENGINE, from 4 to 5 ft. stroke, with CORNISH BOILER from 8 to 10 tons weight.—Particulars, with price and the earliest time at which delivery of the same can be made, to be sent to Mr. R. ROWE, manager, Laxey, Isle of Man.—May 18, 1864.**

**TO IRON MANUFACTURERS.—A PARTY in GLASGOW,** who has an extensive connection, and who could influence a large trade with Clyde shipbuilders, DESIRES a FIRST-CLASS AGENCY for ANGLE and T-IRON, SHEET and BOILER PLATES, and SHEET IRON, or for any of these singly.—Address, M. A. C., care of Messrs. Anderson and Watt, 64, Buchanan-street, Glasgow.

**WILLIAM BARTLETT, STOCK AND SHAREBROKER,**  
MINING EXCHANGE, and No. 2, BUCKLESBURY, LONDON, E.C.  
Every description of marketable shares bought and sold at the usual commission, or at net prices.  
Bankers: Alliance Bank.

**MR. JOHN BATTERS, STOCK AND MINING SHAREBROKER, 13, THROGMORTON STREET, LONDON, E.C.,** pays particular attention to British Lead, Copper, and Tin Mines, for which he solicits orders to sell or buy, at net prices.  
Mr. BATTERS can recommend one or two mines safe for an early rise of 100 per cent.; reliable information afforded on application.

**ELFORD, WILLIAMS, AND CO.,**  
COPPER ORE WHARFINGERS,  
METAL AND GENERAL COMMISSION AGENTS,  
SWANSEA.

**TO BE SOLD, SEVERAL THOUSAND BLASTING CARTRIDGES.** Each cartridge is ready fitted with the very best waterproof blasting fuse. They are made up in sizes guaranteed to be equal in effect to 4 ozs., 6 ozs., 8 ozs., 10 ozs., and 16 ozs. of blasting powder, of the very best quality. At the following prices they will be delivered at any railway or port in the United Kingdom, carriage free:—  
Those equal to 4 ozs. of powder ..... 21s. per 100  
Those equal to 6 ozs. of powder ..... 26s. per 100  
Those equal to 8 ozs. of powder ..... 33s. per 100  
Those equal to 10 ozs. of powder ..... 42s. per 100  
Those equal to 16 ozs. of powder ..... 60s. per 100  
Apply, or address, to BULLOCH and Co., merchants, 9, St. Mary's Gate, Exchange, Manchester.

**KING AND CO., MINING AND SHAREBROKERS,**  
ELDON CHAMBERS, LIVERPOOL.

**MANCHESTER.**  
**MR. W. HANNAM, MINING, SLATE QUARRYING, INSURANCE, AND GENERAL SHAREBROKER,**  
ROYAL EXCHANGE BUILDINGS, KING STREET, MANCHESTER.  
A Monthly Investment Circular on application.



170 pages, and containing the whole case of the miners of England, Wales, &c. will be ready within a short time, and that from 300 to 500 copies of such *Treatise* and *Results* will be gratuitously presented at once to the members of the House of Commons and Lords, so that it is designed that the Legislature may be made fully acquainted with the real condition and wants of those hardy sons of toil who are engaged in this country, and who are herein represented from the various districts. — T.

SM.—25 cwt. of Durham coke, costing 10s. per ton at the blast-furnaces, smelts  $\frac{3}{4}$  tons of ironstone in Cleveland, and which yield 1 ton of pig-iron.  
 It seems that it takes in Lincolnshire 35 cwt. of Yorkshire coal to every ton of ironstone, which yields 33 per cent.; or, in other words, it will take  $\frac{5}{4}$  tons of Yorkshire coal to produce 1 ton of pig-iron. I do not know the price of  $\frac{5}{4}$  tons of Yorkshire coal, but I think that Cleveland will not be beaten yet.—*Stockton-on-Tees, May 25.* CLEVELAND.

SIR,—You will much oblige by inserting the following letter, which appeared in the *Northern Daily Express*, of Monday, in your valuable Journal. As it is the unsolicited testimony of the men themselves, it will be of more weight as an answer to the extravagant assertions made by the Messrs. Heywood and Miller, at the Miners' National Conference, Leeds.

Eaton Mines, May 25. THOMAS WILLIAMS.

"Sir,—Will you now me a small space in your paper to reply to some statements made by a Mr. Miller, at the Miners' National Conference at Leeds, and recorded in your impression of the 14th, relative to the accidents and ventilation of the Eaton Mines. Mr. Miller said that at the Eaton Mines, belonging to Messrs. Bolckow and Vaughan, one man or boy per day, as nearly as possible, was killed and mutilated, and that the ventilation in that part of the country was worse than in any other part of the world, and on this point he spoke with personal knowledge, and not from hearsay. Now, Sir, I beg to say, in reply to the statement,—that one man or boy is killed per day, I do not distinctly inform your readers and the members of the Miners' National Conference, that it is untrue. That accidents have occurred is a fact that no person will deny; but one per day is fearful, and far beyond all reasonable bounds. If he had said one per month he would then have far outstripped the limits of truth, but one per day baffles the most extravagant reach of imagination. In justice to the owners and agents of those mines, allow me to say that the ventilation of the mines is being improved, and that the miners are endeavoring to preserve the lives and health of the workman. 'The ventilation in that part of the country'—the words 'that part of the country' are so indefinite that they almost forbid reply; but for the better information of the Cleveland delegate, permit me to say that there are four furnaces in use, and another large one in course of erection, and that the current of air passing generally through the mine is so great that it is with considerable difficulty that a man can catch his breath in his hand, and that the temperature of the air is twenty six lanterns for that purpose. I beg to refer your readers to judge of the worth of Mr. Miller's personal knowledge in this respect. I am, &c.—Eaton Mines, May 21. A WORKMAN."

Sir,—I was glad to see the letter from "A Wigan Collier," inserted in the Journal of May 21. It is quite time the idea that a female collier is an immoral person was exploded. I know it is general, and have often heard some such expression as this in railway carriages, when passing a colliery bank, on which women were at work—"What a low, degraded class the colliery people seem to be." The fact is, they are rough, it is true, from the nature of the work; but I am sure, so far as a contrast goes, they are more moral—yes, and decidedly more religious—as a class, than any factory workers in England. I have had to do with both classes for years, and I can state, and prove beyond a doubt, that for honesty of conduct, for propriety of conversation, for good English homely feeling, the colliery female is, beyond all contrast, above the factory worker. As the colliery workers stand at present, and have done for a long time past, they have been looked upon by the *clean people* as a "low, dirty, and degraded lot;" but I say—Know them; see them at home, and there you will find them, as a class, as faithful to home and its duties as the most refined workers. I know of no class of labourers that stand higher in the opinion of those who know them, so far as character goes. Then, I say it is a duty to educate them; and when the female colliers have the same advantage as to education as the factory operatives have, I am sure we shall see that they will be able to answer for themselves, so far as moral character goes.

Sir,—“A Wigan Collier,” in last week's Journal, wishes to impress upon your readers the fact that the employment of women and girls on the pit banks in Lancashire is no evil, and denies the immorality resulting therefrom. He then objects to the “Law Section” of the Miners National Council, particularly to that part in reference to the immorality resulting from the employment of women and girls on the pit banks, and, indeed, denies that such is the fact, and then adds that the working men in Lancashire are of a contrary opinion, and do not believe in the demoralisation of the pit girls more than that of the factory girls. Had “A Wigan Collier” been in attendance at the Conference to which the “Law Section” refers he would have heard the unanimous voice of the whole Conference raised in condemnation of the employment of girls and women on pit banks. This verdict was arrived at by a statement of facts unfit for publication, and were made by Christian, credible witnesses, who themselves had seen and witnessed the humiliating, shameful demoralisation of women and girls who were employed on pit banks. Here are the words on this subject, of one of the delegates from Lancashire at the last Conference, 1864, just concluded—a witness on whom reliance may be placed. His evidence appeared in the daily papers. He said,—“There were some men in Lancashire who had not signed the petition because it sought to do away with female labour on the pit banks. The motive of these men in doing so was not to deprive the women of a better opportunity of plenty of plain dress, of dancing, drinking, &c. These men merely wished to prevent the women from endeavour to put a stop to the working of females on pit banks, as it was a practice most cruel and unjust, and was attended with innumerable evils.” The author of the “Law Section” only desires to add, in conclusion, that with his own eyes he has seen and witnessed such scenes of immorality on the pit banks, where women and girls were employed, that nothing shall prevent him, Providence sparing his life, using his unwearying efforts to ameliorate the moral and physical condition of these women and girls, who are destined to be the future mothers of the miners of England and Scotland, and are actually the mothers of the future generation of the miners of Lancashire and other parts, being employed anywhere on the pit banks of this great civilised Christian country. Thousands of petitions to attain this great end, I am glad to inform “A Wigan Collier,” will shortly be laid before Parliament.

THOMAS STEPHENSON.  
Rothwell, Leeds, May 25.

Sir,—Your known love of fair play induces me to address you a few lines in correction of some of your statements made, I judge rather hastily, on reviewing the "Law Section's Report," and which appeared in p. 370 of the Journal for May 21. On again reviewing the pamphlet on the "Law Section's Report," you will find, I doubt not, that I have not stated anywhere, or even hinted in the said section, that sometimes extraordinary circumstances might not occur in coal mines causing an explosion of gas. I believe the whole of my writing on this grave question will abundantly show that I teach a contrary doctrine. I admit I have stated that if gases in mines were rendered "harmless," according to the requirement of the "Colliery Act, 1860," there could, in that case, be no fearful explosions. You cannot, surely, understand me to affirm that a fall of the roof may not sometimes suddenly crush a safety-lamp, and explode it; or even that some foul-air or mine-damp explosion might be caused by a workman lighting his pipe. I must be content to you that at most of the terrible fatalities that have been caused by explosions of gas in this country, it has been proved undeniably in evidence before coroner and juries, that even the most ordinary precautions might have prevented the disaster. There needs no stringent rules of inspection incompatible with the liberal institutions known and established in this our great, happy country. The Colliery Act, I affirm, can be carried out fairly and legitimately, with advantage to the poor miners and colliery owners, without any acts of despotism of the Inspector in the discharge of his duty. No one will deny the great value of safety lamps in fiery mines. It was never, however, intended by Sir H. Davy, the inventor, that such lamps should subvert other great laws and principles, the application of which, in the working and regulations of collieries, are well known to be of much higher importance and surer tendency to arrest and render harmless the destructive fire-damp in coal mines. If it be not the duty of an Inspector of Mines to see and know that the Colliery Act is carried out in the mines within his district, and that, too, without the exercise of any arbitrary power on his part,—say, if it be not clearly his duty, pray what is his duty? With regard to the duties of a coroner, I have no doubts, but I presume to be agreed that dozens working collieries from a neighbouring pit would form the best jury. I certainly say no such thing, if the whole of my argument is taken. The Parliamentary committee of 1852 strongly recommended to the "Home Office the appointment of a special coroner" for colliery accidents, for reasons fully stated in their report. On page 25, of the pamphlet in question, I certainly suggest that "one half of the jury should be selected from the more intelligent miners; and, when practicable, from other collieries." You say "The duties of a coroner are not confined to the district of the mine in which the accident occurs, but if such Inspector is to be punished whenever an accident occurs in his district." Mr. Stephenson would, no doubt, have received the appointment when he applied for it as there would, probably, be no other candidate for the office."

Mr. Stephenson never stated in his "Law Section's Report," or anywhere else, that an Inspector ought to be punished whenever an accident occurs. I should judge a man to have lost his reason to give utterance to such a sentiment. I ask in common fairness, however, ought not a colliery proprietor to be liable to heavy damages in compensation whenever any one of his men are killed or permanently disabled in his mines, for his neglecting to provide proper means of safety for his men; and should not a Government Inspector be punished also for neglecting his duty, the result of which is death or disablement to the poor collier? I think you will grant me that justice for one should indeed be justice for all. Are there? Are there not being appointed an Inspector of Mines when I applied for the position, my opinion that he should not have been named, and indeed, is foreign to the question. All I can say on this subject truthfully is that I know one the real cause of my rejection better than the Editor of the *Mining Journal*, who himself wrote me at the time on the subject.

I will now, however, only add, in conclusion, with reference to the other matters notified, that I had a letter addressed me from London on May 7 from one of the ablest counsel at the London bar now practicing, on the subject of my "Law Section," which he had carefully read. He remarks "that arbitration should be compulsory. The Masters and Servants' Act be revised, proper provision made for education, and an alteration in the law touching enquiries into the causes of accidents and deaths in mines, are suggestions of Mr. Stephenson's which really ought not to long remain 'suggestions' merely, but be the subject of legislative action."—*Rothwell, May 25.* THOMAS STEPHENSON.

P.S.—Mr. Stephenson has great pleasure in saying that the whole of the Transactions and Results of the Miners' National Conference, in one volume, extending to more than

SIR,—Some very important facts connected with the management of companies were elicited in the course of the hearing of the case of the winding-up of the Old Wheal Neptune Mining Company, before the Vice-Warden, proving, as I think, how infinitely superior the Cost-book System is to the Limited Liability System as a law under which to carry on the working of mines. In the first place, the fees paid for law expenses under the Limited Liability System are enormous, if we may judge from the claim made by Mr. Pailbrok for 1877, i.e., for his services in promoting and advising the company, and I am quite sure that no such charges could arise in a cost-book mine; but, in addition to this, the Limited Liability Principle should be discontenanced in Cornwall, because it deprives the working miner and the mine creditor of all security for money due to them from the company. I must admit that in the case of the Old Wheal Neptune some of the steps taken were illegal and, but for the paternal nature of the Vice-Warden's Court, the directors would probably have had to answer for contempt of court; but I shall take no advantage of this fact, and assume that all that was done was with the best intentions, and, therefore, to a great extent, justifiable. The mine and materials were really under the protection of the court from March 1, yet on the 17th or 18th of the same month the proposition is made to raise money on the materials on the mine, and before the date to which the hearing was adjourned a meeting of the company was called, for passing a resolution for voluntarily winding-up, and borrowing 10,000*l.* on the security of the machinery and materials. Now, I contend that Mr. Hastings was quite justified, as soon as that step was proposed in putting the company into compulsory winding-up, because, when a company is already insolvent, disposal of every article of assets, creditors and workmen are left utterly helpless. The Limited Liability Act clears the shareholders (for, of course, it must be assumed that no company would mortgage its property whilst it could make calls upon the shareholders), whilst the questionable management has left nothing for creditors.

Mr. Fulbrook states that the creditors need be under no apprehensions as to their being paid, yet becomes a petitioning creditor to secure his own alleged debt, as if he knew, knowing the internal affairs of the company better than any one else, that the company was insolvent, and that he was not the kind of honest man possessors who is his own lawyer, and it might have been better for him if his position as a petitioning creditor had not been availed of to enable him to address the court. I do not exactly see how Mr. Fulbrook could have shown, had he been asked to do so, that he was not a contributor, and, therefore, his application to the Vice-Chancellor, in such a manner, as to circumvent the law, and himself, open, and that, too, in such a manner as to circumvent might render desirable.

In the case of the South European or the Huelsa Company, I do not now recollect which, the promoter was deprived of all benefit—no claim from him was recognised at all, because he could not prove the value of the property sold with the amount of capital originally subscribed, and he had no option of mortgaging the property to carry on the mines for a longer period than the capital allowed for. What was the difference between Mr. Williams's and Mr. Pulbrook's cases? Another point in Mr. Pulbrook's remarks which I cannot precisely comprehend is the statement that, but for the interference of the court, the 600*l*. owing to Cornish creditors would have been paid before May 1, and that all other creditors would have been left to recover as best they could—a proceeding which would, perhaps, be very good, according to Mr. Pulbrook's notion of common law, though it would scarcely hold in equity. Then, again, I cannot think that the Vice-Warden, being so very ready to secure 1*5s*. in 1*l*. to the creditors as the most favourable terms likely to be obtained for them, would have objected to a voluntary winding-up without the supervision of the court, had it been shown to his satisfaction that a *bona fide* and economic winding-up was intended, and that the machinery was worth nearly twice the amount of the debts.

T. B. D.

Sir, This being the heading of an enquiry in last week's Journal, I beg to reply to one part of it. Had the 20% been offered for the best ore crusher, I could imagine the gold was already in my pocket; but without any desire of getting money in such a style, I beg to state that the confidential manner in which you recommended Blake's Crusher to miners some time ago has been attended by the greatest amount of success, and the results have more than proved the correctness of your judgment. I can give any amount of testimonials from miners who use it, but a very satisfactory one to me is that we have received orders for five of these crushers by a single post—four for miners, and one for a mill. There are already three in use. The 20 x 9 machine is crushing 120 tons of hard stone or ore per day of 10 hours. It is taking the place of a fleet of stamps, and does away with an army of labourers. Auriferous ores that have been too poor to pay for the old system of spalling and stamping are now tipped into the jaws of this machine, regardless of quality, and found to pay well for treating. During the last five years I have had some hundreds of samples of ore crushed and assayed, and a great number of the best would have been lost had the stone to be found. Now why do all parties think the stone or ore they have to crush the hardest? It is from the fact that they have not found an efficient and simple machine to do the work of crushing. Any person having what they think hard stone or ore, I shall be glad to let them see it crushed at any time: the 20 x 9 machine takes in any stone, 20 x 9 or 9 thick. The fact of this machine having ground up a piece of its own jaw, 14 in. x 9 in. weight, at Mosses, and broken the Ecton and Woolf's Hard Stone Crusher to shreds, is sufficient to show the power of the machine to crush stone or any other mineral production. H. R. MARSDEN.

*Soho Foundry, Leeds.*

SIR.—Since my former letter to you, relative to the administration of the affairs of this company, I am glad to observe that the directors are now acting with more energy. Since the last half-yearly meeting they have dispatched to Nelson a mining staff, consisting of a captain and several assistants, with a view to thoroughly explore the various mineral resource of the Dun Mountain, which are said to consist of copper, chrome, slate, and plumbago. With an ordinary passage, the clipper *Violet*, in which they sailed, would be due in New Zealand about the middle of July, and the first result of the exploration may be expected by the meeting in January next. The directors have also succeeded in establishing a new company, called the "Connah's Quay Chemical company," which will, probably, take a considerable portion of the chrome ore, which the company has had on hand some time, and for which a very large market has hitherto prevailed. It appears, therefore, that the future prospects are brighter for the long-enduring shareholders, whose prosperous anticipations have been dimmed by the American war, and the consequent stoppage of trade in the Manchester cotton-printing business. Having been a shareholder almost from the commencement of the company, and having seen for several months my shares at a mere nominal quotation of a few shillings, I look with brighter eyes on this long-neglected property.

MAON.

Sir,—My attention has been called to various articles in the *Mining Journal* on Bolivia and its resources, and more particularly to a letter in last week's *Journal*, in which a very striking enumeration is made of the products of this fine country, and of the different causes which have led to their neglect. Your correspondent remarks that the attention of English capitalists is now directed to Bolivia as a field of mining enterprise. This being the case, and as I have had opportunities during a residence of many years in the country as a civil engineer and director of mines of becoming thoroughly acquainted with the geography and resources of the country, I will make the liberty of adding a few remarks to the above-mentioned correspondent, and of showing how little is required to render this hitherto inaccessible country almost as permeable as the West India Islands. To understand why Bolivia, with its incomparable resources, has been so much neglected, the geographical conditions of the country must be understood, as well as the political events referred to by your correspondent. Your readers are aware that the vast mountain system of the Andes bounds the whole western coast of the American continent. The country in Bolivia consists of two plain districts, one to the north and another. The most important part of the country may almost say the whole of the republic consists of a great valley, running between two ridges—a valley which, from its great height (12,000 ft.), enjoys at all times the temperature of a northern spring, although lying within the tropics. At one end of the valley is the great Lake Zúñiga, at the other end the Lake Pampa Aullagas; the River Desaguadero, 160 miles long, connects them. The mining districts are scattered along the inner chain, and they are, therefore, almost inaccessible, except by the Yungas, the Yungas being the Atlantic plain by the great plains of Brazil and Buenos Ayres. Before steam navigation and railways this country was considered inaccessible; but I believe that, at a comparatively small expense, the state of matters may be completely reversed.

The first questions which must occur to an English capitalist respecting Bolivia will be—What grounds have we for believing that the mineral wealth of the country is so great as it is represented to be? Are these surveys on which dependence can be placed? Has any competent mining engineer visited the country, and reported upon its mineral riches? And, lastly, how can they be reached from the sea? My own experience enables me to give a reply to all these questions. In 1857, after having been employed for some time as engineer and director of mines in Germany, I went out to Bolivia to undertake the management of the mines of Estancia de Cerro. I have abandoned. What I saw there enables me to confirm his statement regarding the resources of the country, the enterprise of the native population, and the temporary character of the causes which have so long retarded its progress in mining enterprise. While in Bolivia I was entrusted with the important duty of exploring and reporting on the mineral wealth of the table-land, its capabilities of inland navigation, and the best route by which it could be connected with the Pacific. The results of my survey have been already partly reported in the mining, scientific, and geographical periodicals of Germany; but the whole of them have not yet been made public, and in a brief letter I can only enumerate the principal objects to which my enquiries referred. I found that the country is rich in minerals, and especially in silver. Cerro, to be found in a part of a ridge which crosses the great valley, the Desaguadero near these places; that new mines might be opened, and that those now worked might be much extended. Silver is found, on the other hand, from one extremity of the great Bolivian valley to the other, nine out of ten of the old mines being deserted for no better reason than the population had withdrawn from their lucrative occupations in consequence of want of capital. Gold deposits I found to be more important than they are generally represented to be, particularly at the extremities of the valley. But the least worked, although perhaps the most important, of the mineral treasures of Bolivia I found to be the tin, which is scattered over the south-eastern extremity of the valley, near Oruro. Of course, these indications of wealth without statements regarding the nature of the ores and the modes of working them, are of little value. The great obstacle to the development of great difficulty is the means of transport to the sea. At present the routes are wild mule-roads from each district over the passes of the Western Andes to the Pacific, which, from the fact of their being numerous, cannot be kept in repair, except at immense expense. This, however, is not the necessary state of matters.

I have stated that the tin, copper, gold, and silver deposits all lie along the water-course of the Desaguadero and its great lakes. It is evident, then, that if they could be connected with steam navigation, one route over the Andes would alone be necessary. I have explored the whole course of the river, and have found that the stream is everywhere free from rapids or shallows. It is navigable from one end to the other, even in the dry season, by vessels drawing 7 ft. of water. River and lake steamers are alone necessary to render all the districts nearly equally accessible. The only ones

tion, then, remains is how this inland navigation can be connected with the coast. I have carefully examined the various passes over the Andes into the valley, and have decided that the most favourable for the construction of a railroad is that from the Pampa Aullagas to Iquique.

This route has been laid down and laid down in a map of Bolivia I have prepared. It will be published by Petermann, of Gotha, from my trigonometrical observations taken in the country. The railway is represented with various geological characters in the map of Bolivia, published by Mr. Wyld in 1863. The route proposed by me has not been chosen altogether in consequence of the easy gradients (the steepest gradient being  $4\frac{1}{2}$  in 100) which it everywhere presents, but partly in consequence of the valuable mineral deposits through which it passes. At Salinas, not far from the southern lakes, it crosses the Bolivian beds of sulphur; further on it passes through the Salinas beds, the deposits of sulphate of soda, and the beds of sulphate of lime. It takes an oblique course through great deposits of saltpetre, which have been also described by me at great length in the "Mining Journal of Freiberg."

In future letters I shall enter with more detail into the various subjects above referred to, and endeavour to supply so far information of a practical kind regarding the inducements to capitalists presented by the mines and deposits of one of the least known, and yet the richest, of the mining regions of South America.

*Seyd's Hotel, 39, Finsbury-square.*

SIR,—I cannot altogether agree with your *Truro Correspondent*, that the "doctrine is monstrous" which says that money obtained upon representations not borne out by facts should be returned. I agree with him that it is difficult, if not at times impossible, to define with accuracy the course taken by metallic lodes; and in a case where money is subscribed for a particular and specified object, no part of it being taken as premium to the promoters of the undertaking, and the object of speculation is not reached, it would be a "monstrous doctrine" for any person, all having gone into the speculation alike, to be allowed to retain his money. But with this I am in agreement. If a man is charged, upon the specific representation that he has made, with a fraud, through the ground, and circumstances should afterwards show that it did not exist, then there is a clear right to the return of the money; and it appears to me that Mr. Watson and Cuell, who upon the first breath of suspicion that they might have been deceived, came forward in a manner to be expected from their position in the mining world, and acted, in the West Medal question, as all honourable men in similar circumstances are bound to do, both morally and legally.—*Temple, May 26.*

Sir,—\* \* Where is the Metal lode which, in their first letter, Messrs. Watson and Caell positively said had been found 40 fms. in West Metal? Can they bring any two independent and unprejudiced assessors who will say the great Metal lode has dwindled into the miserable fragments which C. Thomas, jun., on May 4, says is "about 6 in. wide," and their own inspectors, Captains Mark Reed and J. Vivian, respectively say "9 in. to 1 ft. wide," and about "9 in. wide"? Capts. Reed and Vivian stoutly deny saying it is the main Metal lode; the other lode they describe as a "crafter," quite clear they were unable to find the Metal lode in West Metal. As for the report, Capt. Blewitt, the letter of the Great Vro agents, in last week's Journal, "were it the winds. Yet there was great encouragement and comfort for Watson and Caell." Capt. Thomas Richards having promised, *(if his life were spared, by himself to find the Metal lode was in West Metal; and the offer of another man (who knew they were within 6 ft. of the lode) to find it, if he were allowed to work the tin on tribune, was equally comforting and encouraging; doubtless, however, out of consideration for the health of the tributers, or probably from a fear the tributer should get too rich, the promoters of West Metal have apparently declined both offers, for they have agreed to take the shares back again at the same price as the unbelievers who deny the metal lode was described by Capt. Thomas Reed and Vivian.*

metals described by Capt. Thomas Keel and Vivian is the Metal main lode, and the Metal south lode. Cuell argues on plans drawn long before 1857, and on the true nomenclature of the lode, that they know the former are not in fact accurate, and the latter have been since then materially altered? What Messrs. Watson and Cuell call the Metal south lode has long ago been understood to be the Metal main (formerly Schneider's) lode, and so Capt. Gill calls it; but it does not underlie north "4 ft. and sometimes more" in a fm., its average underlay, as stated by Capt. Gill, in a section now before me, being only 3½ ft. per fm. What Messrs. Watson and Cuell call the "Metal lode" is now understood as the Metal north lode, and its average underlay north is, as also stated by Capt. Gill, only 1 ft. 8 in. per fathom, and not "2 ft. per fm. These two lodes are not, as stated by Watson and Cuell, "40 or 70 fms. apart. Hence if they were the same, the latter lode would have to underlie north "4 ft. and sometimes more per fathom," and not "4 ft. and sometimes more per fathom, on the overtake, and at the 90 fm. level fall 1½ with the north lode, also underlaying, say, "2 ft. in a fathom" north. So here is another blunder, showing an ignorance of the underlay of lodes, which on their part "is surprising." According to the underlay given by Capt. Gill, these two lodes are only about 25 fms. apart at surface. This confirmed by your Truro Correspondent, who says they are about 30 fms. apart. At the junction at the 90 the united lodes continue to underlay north, with the same true underlay as the southernmost lode had above—thus proving the so-called "South Main lode" of Capt. Pascoe, and of Watson and Cuell, to be the Metal main lode. Capt. Gill may as well add that, since my last letter, the lode cut in West War has been named by Capt. Pascoe, of South Frances, and he gives it as his decided opinion that the lode is the main Metal lode of Great Wheal Vor.

JOHN SCHNEIDER.

19, Trenchard-gate, May 27.

**MINE**, under such a very hard channel of ground, or strata, as the district miners have had to contend with during the last three years, may be considered a great success for the locality, and proves beyond a doubt that perseverance had been the order of the day very many of the adjoining mines in the district would still be working, and probably productive to a much greater extent than in days of yore. Some of the richest mines in the Marazion district have been discovered very rich in copper ores near the surface, under beds or deposits of gossan, and it is fully possible that hard fossils of strata, technically called horses of ground, associated with under the rich copper deposits, may be discovered in the future. The mine is large, according to the size of the vein or lode. At OLD WHARF FORTUNE, a mine about 1½ mile north of the Tolvaidden, a few poor men drove an adit, or day level, from the base of a small hill, with a view of discovering a tin lode or lodes, as the valley below was so productive for this mineral a few feet below the surface, in streaming or water courses, for tin occurs in the original bed of mining in Cornwall by the surface, and years passed on, but the poor people could only get a small amount of tin, and the usual course of their other pursuits— that of stroming low lands and rivers, fishing, and farming, as it suited their pockets and circumstances. In the year 1720, after the endurance and great perseverance, some of their families at times actually in want, they cut into a vein or lode several feet in thickness, composed of gossan and grey calcareous matter, and the tin was obtained in small quantities, and the miners were obliged to dig, and in a few fathoms below this level the lode was so unproductive that the men could work abreast with their picks and break the ore. Shares, 64 in number, were sold for a pot of beer and cost, to a pint of brandy and cost, and thence to 1000s. a share.

At the 50 the mine became poor, and was abandoned. About the year 1802 the Mills, of Gundry, a mining family residing in a village about three miles from this mine, commenced operations by erecting what was considered in those days a very large steam engine, and sunk a new engine-shaft, to take or meet with the lode at the 80; this accomplished, they cut into the lode under the horse, or hard channel of ground, and followed the vein or lode to be as rich or richer than in the levels above. The outlay was £20,000<sup>l</sup>, and shares (64) rose to the value of 1000<sup>l</sup>. per share. So rich was the mine, that the owners, who had sunk the shaft, raised the rate of the lode to be two millions of pounds, which sold at 17<sup>l</sup>. 17s. 6d. per ton. This mine was wrought very successfully for many years to the depth of 158 fms. below the day, or adit level; but the machinery being found to be unequal to the task any longer, the mine was again abandoned, and operations commenced on a mine about half a mile east of the Fortune Mine, on the same lode, and wrought very profitably for many years by the same family.

mine liable to a conviction for allowing females to have charge of the machinery or tackle by means of which persons are brought up or passed down a vertical shaft of a mine, contrary to the 5 and 6 Vict., c. 39, sec. 8 and 13, knowledge of or acquiescence in their being so employed must be brought home to him; and evidence of female being found in charge of such machinery and tackle on one occasion only is not sufficient to establish this. This was the holding of the Court of Queen's Bench, in the case of the Queen v. Henthorn.

**LIABILITY OF PROVISIONAL DIRECTORS.**—Several persons were appointed to be promoters of a joint-stock company to become directors, to which they agreed on the express understanding that the promoter should bear all the preliminary expenses. They met, settled a prospectus, and resolved that it should be advertised, and the expenses of the preliminary steps were paid by the promoter. The promoter then applied to an agent to insert it in the newspapers, showing him the resolutions of the directors. In an action, *Maddick v. Marshall*, in the Common Pleas, to recover the amount against some of the provisional directors, they were held to be liable for the amount paid by the promoter, although the agent, who was not a director, was not informed of the agreement between himself and the directors.

purpose of allowing a creditor to wind-up an estate under insolvency, it is incumbent upon the inspectors to take active steps in the matter, and to be prepared to give an account of the money received. In the suit *Coppard v. Allen*, before Vice-Chancellor Stuart, an inspector, who had permitted twelve years to elapse without any account being made among the general creditors, and without any accounts being rendered them, was charged for wilful default, and ordered to pay costs, although the specific charges were of no great magnitude. The Vice-Chancellor said it was sufficient to establish the case in the present, in order to charge trustees for wilful default, to prove an instance of negligence.

decided in *re* the southampton, Isle of Wight, and Portsmouth Improved Steam Navigation Company that an agent is bound personally as a contributory, in respect of shares subscribed for, unless he have expressly given notice to the company at the time of his subscription that he is only an agent.

**VENDOR AND PURCHASER.**—The case of *Viscount Palmerston v. Turner* was, where an agreement, by Lord Palmerston and others, as trustees for the Duke of Malmesbury, for the sale of a freehold estate in Hampshire, contained a stipulation that "if from any cause whatsoever the purchase should not be completed on any day named in the contract, the purchaser should pay interest from that day until completion, and an abstract of the delivered by the vendors, showing a defect in their title, which was afterwards removed by deed, the purchaser, Charles Turner, and the result was, that the purchase was not completed till more than twelve months after the day named in the agreement. It was, however, held by the Master of the Rolls that the words "if from any cause whatsoever" meant "any cause whatsoever other than wilful default;" and that as there was no wilful default in the lease, the purchaser must pay interest from the day named in the contract, which the purchase ought to have been completed till the time of its completion.

purporting to be framed under the Bankruptcy Act, 24 and 25 Vict., c. 134, s. 134, and the several of his creditors, parties thereto, who covenanted with the debtor that they would indemnify him against any bills which might have been accepted, drawn, or cashed by the debtor, or given by him to the several creditors parties thereto, or any of them, and would retire and pay all such bills at maturity. This was the case of Nicholas v. Potts, in the Court of Exchequer Chamber, where it was held, upon the authority of Woods v. Foote, in the House of Lords, that the deed was not a valid deed, under the 1924 section, against creditors who had not executed it.



THE NATIONAL BANK.

Dr. COGHELAN, in seconding the motion, said that he had little doubt, from the statement of the Chairman, the future of this bank would fulfil the expectations of the sanguine; and not only the Irish shareholders, but the public generally, had the right

most the term in the ensuing month. The committee look with confidence to the result

he might so inform West Basset. Your committee regret to have to add that they have been given to understand that West Basset will not give their assent to either of the terms of arrangement so proposed by Sir R. R. Vyvyan. Your committee have, however, the satisfaction of stating that the appeal case is set down for hearing before the Court of Exchequer Chamber, and, although it has not come on for argument this week, there is every probability that it will be reached and determined in the sitting.

commercial and financial position of their property. As regards the financial position of the undertaking, that had been seen by the balance-sheet just submitted, the correctness of each item in which was attested by the vouchers upon the table, which

holders in possession of what had been done since the last meeting, and of the commercial and financial position of their property. As regards the financial position of the undertaking, that had been seen by the balance-sheet just submitted, the correctness of each item in which was attested by the vouchers upon the table, which



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MAY 28, 1864.

## Mining Correspondence.

## BRITISH MINES.

**BEDFORD CONSOLS.**—Capt. Mitchell, May 26: In the middle adit level east the north lode is about 18 inches wide, composed of spar, munda, prun, white iron, and spots of copper ore.

**BEDFORD UNITED.**—J. Phillips, May 24: The stopes in the 130 west are yielding 3 tons of ore per fm. The five stopes are yielding respectively 3½, 3, 4, 3½, and 4 tons per fm. The stopes in the 103 west are worth 3 tons per fathom. The stopes in the 47 and 35 east are worth 2 tons per fm. The lode in the north shaft, sinking below the 62, is 2 ft. wide, producing good stones of ore. The lode in the 62 west is 2 ft. wide, producing good stones of ore, and looking more promising; in this level east the lode is not taken down.

**BOSCAWEN.**—J. Edwards, R. Giles, May 21: The lode in the 80, driving west of Hunter's shaft, is in wide unproductive. The lode in the 70, driving west of said shaft, is worth for copper 35¢, per fm. The lode in the 60, driving east of Hunter's shaft, is 2 ft. wide, producing good stones of copper ore. The lode in the 50, driving east of Hunter's shaft, is 14 in. wide, worth 10¢ per fm. The lode in the 40, driving east of Hunter's shaft, is 18 in. wide, worth 12¢ per fm. The lode in the 30, driving east of Hunter's shaft, is 18 in. wide, worth 6¢ per fm. The lode in the 20, driving east of Hunter's shaft, is 2 ft. wide, producing good stones of copper and lead.

**BOTTLE HILL.**—J. Eddy, May 24: Main Lode: The stopes west of Williams's have improved, producing richer work for tin than they have for some months past. The lode in the 24, east of the 20, is 5 ft. wide, producing about the same quantity of tin as when reported last week. —Robert's Lode: The lode in the 17 east continues to hold its size, about 4 ft. wide; for the last few days the lode has been producing a great deal more munda than usual, and for the present not so rich for tin. —New South Lode: The lode in the 12, east of shaft, has been hard and poor for the last week. I have been underground to-day, and I am happy to say the ground is again easier, the lode larger, and producing good stones of tin. We have a great quantity of tin ore broken underground and at surface that cannot be returned for the present, owing to the shortness of water for stamping. I have known Bottle Hill for many years, and never found the water so short as at present.

**BRONFLOYD.**—J. Lester, May 25: The 83 is now open west of shaft 56 fms., and is about 5 fms. off the run of the ore ground; the lode in the present end, however, contains a little sand, but not sufficient to give it a value on; the ground is very hard indeed, and our progress is consequently slow. The winze from the 40 to meet the 52 when it is now sufficiently deep to come in at the top of the level; the men would have sunk it another fathom or so; but the air is very bad, so much so, indeed, that a candle will not burn. There is no alteration in the stopes above the 40 since my last report. We shall tomorrow ship the 30 tons of ore sold last week to Mr. Adam Eytan.

**BRYN GYFNOG.**—F. Evans, May 25: The lode in the engine-shaft, sinking below the 90, is small, it consists of soft spar, blende, and stones of lead; it is evident by tracing the different limestone beds to the west, that we are not sufficiently deep for the regular white bearing limestone, and there is scarcely a doubt but that we shall cut it in sinking, which a considerable improvement may be looked for. The 90 west is in very hard ground, the lode is about 1 ft. wide, producing blende and lead, worth for the latter about 1½ ton per fathom. The lode and ground in the 90 east is quite similar to that of the same level west, but there is a run before this level which we hope to cut shortly. We have four pitches in the roof of the 90 east and west, which, on an average, will produce about 15 cwts. per fathom. The pitch in the bottom of the 75 east will yield about 1 ton per fathom; the second pitch, further east and similarly situated, will produce about 1 ton per fathom. The third pitch, further east, and similarly situated, will produce about 1 ton per fathom. All the shale has been cleared from the no particular change has been observed in the lode in the 90 east and west. There is no particular change to notice in the old pitches; the mine generally has not looked so well lately, and will affect our quantity of ore for next sale. We, however, look for an early improvement in the shaft and 90 east.

**BRYNAIL.**—J. Roach, May 24: The lode in the 20 east, as I before informed you, has been heaved by a branch of clay crossing it; we are driving south towards it, and expect to intersect it daily; there are great chances of improvement east of this. The lode in the 20 west, on the south part, consists of flookan and sandstone, in which we occasionally find pieces of lead ore; its appearance is very encouraging. The cross-cut behind this end is driven north on the lode 17 feet—no wall yet; this is producing a mixture of solid stones of lead ore; I believe all this part of the lode will pay well for stamping when the 30 shall be driven under it. The stopes in the 10 continue to be worth 10¢ per fathom. The bearings and cisterns have been fixed, and lift placed therein, all preparatory work has been accomplished, and sinking has been resumed; we hope to reach the 30 in nine to ten weeks from this date. The mine is evidently improving as it is deepened, therefore we may look forward to great improvements in the next level. We have now five people dressing ore; we shall be able to send off 12 tons in a few days.

**BULLER AND BASSETT.**—J. Rule, May 25: In the 80 west, on the south lode, the lode is 3½ ft. wide, yielding good stones of copper ore, but not enough to value as yet. We have discovered a breccia at the end, which is letting out a large quantity of water. In the 80 east, on the north lode, the lode is not so favourable as last reported. In the 60 west, on engine lode, the lode is 2 ft. wide, composed chiefly of soft spar, with a little black ore occasionally—ground easy for driving.

**CARADON AND PHENIX CONSOLS.**—Wm. Richards, May 26: The lode in the 20 east of engine-shaft, is 3 ft. wide, and very promising, containing quartz, capel, peach, munda, blende, and some good quality copper ore. The ground in the 30, east of engine-shaft, during the last fortnight has been a little tighter for working, but now it is better again, and in the extreme point there is a large stream of water flowing out of the lode; very little of the lode has been taken down since the date of my last report, but we shall do so in the course of the next ten days, and I will report its character in my next.

**CARADON CONSOLS.**—W. Rich, May 24: The north lode, in the 80 west, is 3 ft. wide, composed of prun, with friable quartz and gossan, and has a strong and kindly appearance—the ground is much easier for driving than of late. The engine lode carries well-defined walls, but the granite near it is stiff, and the progress slow. The cross-cut sink is being urged on through favourable ground as fast as possible.

**CASH WELL.**—John Pearl, May 26: The mine is looking better than for some time past. We are down 35 fms. below the adit. Our hydraulic engine has been put to work a few days stoppage, and we hope in a few days to have the water in for to the bottom. The end at the bottom of the engine-shaft, is in whole ground, and driven 7 fms. east of the end above, worth about 12¢ per fm. for lead. In the scar limestone, where the end is standing good, we have some good ore, worth over 22¢ per fathom. We have four men driving east over bottom of slaty hazle, and about 8 fathoms back from the scar limestone is good below. We have other four men working 15 fms. west of where the furthest stopes are standing in the scar limestone, worth about 16¢ per fm., and over 20 fms. of whole ground. I consider that our position has not been better for several years; and, should present prospects continue, I hope that dividends will be paid in nine months from this date. We have just sold 40 tons of lead, which realized 54¢.

**CASTELL CARN DOCHAN (Gold).**—J. Williams: We have washed 13 cwts. of gold from 2½ tons of stuff; much gold is left in the tailings, which we shall get by amalgamation. We are getting on with the building and the road as fast as we can. The Britten's pans have not yet arrived from Portmadoc, but expect them this week. The new water-course for the small machinery is now ready. We are raising quartz on the top of the gold sink. Four men are driving the east end of the level No. 1; the lode is about 2½ ft. wide, and of the same character as last week. At the south end of the set I have two men driving on the lode, which is about 18 in. wide. We expect the plans to be ready for the water-wheel, stamps, and buildings in the course of the week. We shall soon have the mine in a better position than it has been for some time.

**CEFN CILICEN.**—C. Hector, May 26: Susan's Shaft: In the 80, driving east, the ground for the last 8 or 10 yards has changed so often from shale and spar to spar and clay, and spar alone, that I think we must be very near the junction of the Thistlefield lode, which runs north and south. The lode in the end at present is closer than it has been, being about 6 in. wide, top and bottom, and about 2 in. in the middle. There is lead all through the lode, but not to value, which has not been the case for some yards back. Office shaft is sunk to the 35; joint close and hard for sinking. We have been dressing a small parcel of lead and jack.

**CENTRAL GLYNS.**—Richards, May 19: We are still making good progress in sinking the shaft, and the indications are not less favourable. We have with a leader, or vein, containing tin in the bottom of the shaft; although not large enough yet to be of much value, such things speak well: it is dipping towards the lode, and when united seldom fails turning out a splendid discovery. I think we shall have something of importance in a very short time.

**CLARA UNITED.**—Jas. Lester, May 25: At Llywernog, the lode in the 40, west of shaft, is about 3 ft. wide, and carries a fair mixture of lead and blende ore. The winze from the 30 to the 40 cross-cut level is now through, and the mine is now perfectly ventilated. We shall proceed to sink the engine-shaft to the 50 as directed; previous to which, however, we are using the labour in getting the Quarry shaft stripped, and the materials removed to Dolwen, according to your instructions.

**CLOWANCE WOOD.**—E. Cheywin, May 21: We have cleared the engine-shaft to adit, and shall now put the sumpmen to case and divide the shaft, and put in ladders. We have commenced building the engine-house, and to-day some heavy parts of the engine were brought on the mine. We are getting on well with all our surface work.

**CONNORREE.**—Capt. Bishop, May 21: In the deep adit there is no change in the rock formation. The 54, west of engine-shaft, is yielding good copper ore. The 45 fm. level, west of engine-shaft, is a little improved, and yielding better ore. The 20, west of the lode, is not looking so well for copper. In the 18, east and west of Field's shaft, the lode in the west end is large, but poor for ore; the east end is improving, and yielding good ore. In the 10, west of old cross-cut, the improvement for ore still continues, and I may say the lode is looking well. Nothing calling for remark has occurred in the 10 south, and west of Tracey's shaft, during the week. No change in the 20 cross-cut, south of new shaft. Nothing doing in the 10 cross-cut, south of Tracey's shaft, for the present, the men being engaged about more urgent work. The stopes on the great copper and other lodes, on the whole, are much the same.

**CRENVER AND WHEAL ABRAHAM.**—J. Vivian, May 26: At Vivian's shaft, in Outfield, we are getting on with the engine and the 30-in. cylinder engine. We placed yesterday the steam-hoist to work for lifting large blocks of granite on the building, and it answers admirably; it will expedite the building of the house very much. We expect to bring the large bob, or main beam, of the engine and three more boilers on the mine this week. The clearing of the adit line in this part of the mine is progressing satisfactorily. The walls of the offices are up to the required height, and the carpenters are busy about the roof, &c. The masons are now employed building saw-mill, &c. At Wheal Abraham mine sump-shaft the masons are making good progress. A great portion of the 80-in. engine for this house is already brought on the mine. The clearing of the adit north and south on this part of the mine is progressing satisfactorily. At Thomas's, or western district, we shall commence building the engine-house for the 70-inch engine on Monday next. The boiler builders have nearly completed four large boilers. The work is being pushed on as fast as possible.

**CROWAN CONSOLS.**—J. Seymour, May 25: We are getting on well with fixing the pitwork at Ward's engine-shaft; the men will have completed this, we expect, by our next setting-day, Saturday week next, when we shall be in a position to drive both east and west on the D lode at the 30, when we may expect to meet with some good shoots of copper, free from blende and tin, the Curtis people having a fine lode of ore gone down in bottom of the 30, close upon our ground, and lengthening towards us, all of 12 ft. in 3 in. I hope after driving a few fathoms at the 30 to be able to put down a winze on this ore, and other winzes at places where we found some good copper in the bottom of the 20 fathom level; and in driving west of Ward's shaft, at the 30, no doubt we shall meet with copper, having traced a shoot of ore from the bottom of the adit down to the back of the 20 there. One pair of tributaries are raising some fine copper in the pitch west of the shaft; another party some good tin stuff and low price copper opposite the D shaft. There are about 6 to 9 fms. more to drive the 20 fathom level cross-cut to intersect the D lode. The ground in this end is much eased of late; it may be somewhat nearer the lode than named; the lode at surface is not more than 10 fathoms north of the end and underlying to this; this is an important point, as over against this the lode seen in the Curtis adit is promising one, and spotted with copper. I have been told that there is a fine course of copper in this lode at the 20, in Wheal Curtis sett, under

water; yet this course of copper, too, is inclining towards Crown Consols sett very fast. I have been told by many of the old men that worked in Wheal Julia Mine above the elvan course here, that our D lode is precisely the same sort of stuff, blende, tin, munda, and copper at and about the 10 and 20 fm. levels, but between the 20 and 30 fathom levels it changed the same as the D lode; here the blende, munda, and tin left the lode, and it formed a quartz lode, spotted with copper; then, at the 30 fm. level and downwards, it made large courses of rich copper. I am happy to say we shall soon be in a position to open up the 30 with speed. We have a fine lot of good materials on the mine. Our heaviest cost for this is at an end. The 10-arm capstan is fixed all complete. We put up the new rope yesterday, 12 in. round and 140 fms. long; this is in accordance with the shears and capstan, good materials; the pitwork is 16 in. diameter. We shall have 20 fathoms of 13-in. pumps to lay idle, and 36 fathoms of 9-in. pumps with wind-bores, workings, &c. After the new lift is fixed the 13-in. pumps will do for the Wheal Strawberry, and the capstan and rope and shears, balance-bob, &c., that are now on the Dumping shaft, there will be no further use for them there. More can be achieved towards exploring this mine now in six months than has been done from the commencement of the operations. I fully believe that six months' perseverance will put the shareholders in possession of a good mine here.

**CUIDRA.**—F. Puckey, E. Dunstan, May 25: In the 105, west of Walker's shaft, we are driving the lode, which is more than the end wide, and is presenting a more promising appearance, and producing a little tin. In the same level east the lode is more by a small cross-course; we are now driving north to intersect the lode to the east of the same. In the 90 west we shall now commence cross-cutting the lode, to prove its size and value. In the 75 west we are still driving by the side of the lode. In the stopes in back of this level, and west of the winze, the lode is without alteration, still worth 50¢ per fm. In the stopes in back of the same level, further west, the lode is improving, and for 3 ft. wide is worth 12¢ per fm. In the stopes in bottom of this level we shall commence to take down the lode in a few days. We consider the 60 is driven sufficiently well to reach the tin ground from the back of the 75; therefore we shall now commence to cross-cut the lode in the 60 to prove its value. In the stopes in back of this level no lode has been taken down since last reported.

**CWM ERFIN.**—May 24: The lode in the stopes over the back of the 32, about 55 fathoms east of the boundary, is 3 feet wide, and yielding dressing work of low quality. We look forward for this stop to improve as we approach the bottom of the 20. The lode in the 20, going east of the boundary, is 2 feet wide, composed of killas, decomposed quartz, and intermixed with small cubes of lead ore—looking promising. The lode in the rise over the back of the 20 is 2 yards wide, composed of clay-slate, blende, quartz, and lead ore, worth from 12 to 15 cwts. of the latter per fathom. We have 14 men employed in the different stopes over the back of the 20; the lode varies from 3 to 5 feet wide, and will yield on an average 12 cwts. of lead ore per fm. The 10 continues to open out some good stoping ground; the lode in the present end is 4 ft. wide, and will turn out from 35 cwts. to 2 tons of lead ore per fathom. The lode in the stopes over the back of the 10 fm. level, 22 fms. behind the present end, is 4 feet wide, and worth 1½ ton of lead ore per fathom. Two of the other stopes in back of the 10 have fallen off in value; but seeing that the level above has passed through a good lode, we may expect for them to improve again soon. There are two other stopes in course in course of working over the back of the 10, in which the lode will yield from 1½ to 1½ ton of lead ore per fathom. The deep adit level has continued to lay some good ground at command since the last report. The lode in the present end is 5 ft. wide, and worth 2 tons of lead ore per fathom. A new stop has been set in the back of this adit level, 5 fathoms east of the boundary; the lode in the same is 4 feet wide, and worth 1½ ton of lead ore per fathom. The lode in the stopes over the back of the same level, 40 fathoms east of the cross-cut, is 2 ft. wide, and worth from 12 to 15 cwts. of lead ore per fathom. We have not cut the lode in the new cross-cut north from the side of the hill, but expect to do so daily. There is no alteration in any other part of the mine. We shall be prepared to sample 65 tons of lead ore on Tuesday next.

**DALF.**—R. Nines, May 26: The Pipe vein still improves a little, and from its promising appearance I expect it will soon be very much better.

**DEVON AND PHENIX CONSOLS.**—A. St. North, May 24: The two stopes working, one at George and Charlotte and the other at William and Mary, are a little improved. There is no other change to notice in the mine.

**DEVON COPPER.**—T. Neill, May 24: In sinking the engine-shaft, and also in driving the adit level east, good progress is being made, and the part of the lode working on in each pitch is producing fine gossan and good stones of yellow ore.

**DOLFRYNOG.**—C. W. Secombe, May 23: The men in the cross-cut have made a better lode to the No. 5 level; they have 2 ft. 6 in. more to drive to complete it in the course of two or three days. In the middle of the past week I let a rise in back of the No. 4 level, on the quartz, to two men, at 3¢ per fm.

**EAST CARADON.**—J. Secombe, May 25: Caunter Lode: The 50 east is worth 12¢, the 60 east, 12¢; the 70 east, 12¢; the 80 east, 12¢; the 90 east, 12¢; the 100 east, 12¢; the 110 east, 12¢; the 120 east, 12¢; the 130 east, 12¢; the 140 east, 12¢; the 150 east, 12¢; the 160 east, 12¢; the 170 east, 12¢; the 180 east, 12¢; the 190 east, 12¢; the 200 east, 12¢; the 210 east, 12¢; the 220 east, 12¢; the 230 east, 12¢; the 240 east, 12¢; the 250 east, 12¢; the 260 east, 12¢; the 270 east, 12¢; the 280 east, 12¢; the 290 east, 12¢; the 300 east, 12¢; the 310 east, 12¢; the 320 east, 12¢; the 330 east, 12¢; the 340 east, 12¢; the 350 east, 12¢; the 360 east, 12¢; the 370 east, 12¢; the 380 east, 12¢; the 390 east, 12¢; the 400 east, 12¢; the 410 east, 12¢; the 420 east, 12¢; the 430 east, 12¢; the 440 east, 12¢; the 450 east, 12¢; the 460 east, 12¢; the 470 east, 12¢; the 480 east, 12¢; the 490 east, 12¢; the 500 east, 12¢; the 510 east, 12¢; the 520 east, 12¢; the 530 east, 12¢; the 540 east, 12¢; the 550 east, 12¢; the 560 east, 12¢; the 570 east, 12¢; the 580 east, 12¢; the 590 east, 12¢; the 600 east, 12¢; the 610 east, 12¢; the 620 east, 12¢; the 630 east, 12¢; the 640 east, 12¢; the 650 east, 12¢; the 660 east, 12¢; the 670 east, 12¢; the 680 east, 12¢; the 690 east, 12¢; the 700 east, 12¢; the 710 east, 12¢; the 720 east, 12¢; the 730 east, 12¢; the 740 east, 12¢; the 750 east, 12¢; the 760 east, 12¢; the 770 east, 12¢; the 780 east, 12¢; the 790 east, 12¢; the 800 east, 12¢; the 810 east, 12¢; the 820 east, 12¢; the 830 east, 12¢; the 840 east, 12¢; the 850 east, 12¢; the 860 east, 12¢; the 870 east, 12¢; the 880 east, 12¢; the 890 east, 12¢; the 900 east, 12¢; the 910 east, 12¢; the 920 east, 12¢; the 930 east, 12¢; the 940 east, 12¢; the 950 east, 12¢; the 960 east, 12¢; the 970 east, 12¢; the 980 east, 12¢; the 990 east, 12¢; the 1000 east, 12¢; the 1010 east, 12¢; the 1020 east, 12¢; the 1030 east, 12¢; the 1040 east, 12¢; the 1050 east, 12¢; the 1060 east, 12¢; the 1070 east, 12¢; the 1080 east, 12¢; the 1090 east, 12¢; the 1100 east, 12¢; the 1110 east, 12¢; the 1120 east, 12¢; the 1130 east, 12¢; the 1140 east, 12¢; the 1150 east, 12¢; the 1160 east, 12¢; the 1170 east, 12¢; the 1180 east, 12¢; the 1190 east, 12¢; the 1200 east, 12¢; the 1210 east, 12¢; the 1220 east, 12¢; the 1230 east, 12¢; the 1240 east, 12¢; the 1250 east, 12¢; the 1260 east, 12¢; the 1270 east, 12¢; the 1280 east, 12¢; the 1290 east, 12¢; the 1300 east, 12¢; the 1310 east, 12¢; the 1320 east, 12¢; the 1330 east, 12¢; the 1340 east, 12¢; the 1350 east, 12¢; the 1360 east, 12¢; the 1370 east, 12¢; the 1380 east, 12¢; the 1390 east, 12¢; the 1400 east, 12¢; the 1410 east, 12¢; the 1420 east, 12¢; the 1430 east, 12¢; the 1440 east, 12¢; the 1450 east, 12¢; the 1460 east, 12¢; the 1470 east, 12¢; the 1480 east, 12¢; the 1490 east, 12¢; the 1500 east, 12¢; the 1510 east, 12¢; the 1520 east, 12¢; the 1530 east, 12¢; the 1540 east, 12¢; the 1550 east, 12¢; the 1560 east, 12¢; the 1570 east, 12¢; the 1580 east, 12¢; 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the 2090 east, 12¢; the 2100 east, 12¢; the 2110 east, 12¢; the 2120 east, 12¢; the 2130 east, 12¢; the 2140 east, 12¢; the 2150 east, 12¢; the 2160 east, 12¢; the 2170 east, 12¢; the 2180 east, 12¢; the 2190 east, 12¢; the 2200 east, 12¢; the 2210 east, 12¢; the 2220 east, 12¢; the 2230 east, 12¢; the 2240 east, 12¢; the 2250 east, 12¢; the 2260 east, 12¢; the 2270 east, 12¢; the 2280 east, 12¢; the 2290 east, 12¢; the 2300 east, 12¢; the 2310 east, 12¢; the 2320 east, 12¢; the 2330 east, 12¢; the 2340 east, 12¢; the 2350 east, 12¢; the 2360 east, 12¢; the 2370 east, 12¢; the 2380 east, 12¢; the 2390 east, 12¢; the 2400 east, 12¢; the 2410 east, 12¢; the 2420 east, 12¢; the 2430 east, 12¢; the 2440 east, 12¢; the 2450 east, 12¢; the 2460 east, 12¢; the 2470 east, 12¢; the 2480 east, 12¢; the 2490 east, 12¢; the 2500 east, 12¢; the 2510 east, 12¢; the 2520 east, 12¢; the 2530 east, 12¢; the 2540 east, 12¢; the 2550 east, 12¢; the 2560 east, 12¢; the 2570 east, 12¢; the 2580 east, 12¢; 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In the 60 east, north of Fiedler's shaft, the lode is 3 feet wide, and worth 181. per fm. In the 50 east the lode is 1 ft. wide, producing a little ore, but not sufficient to value. In the 30 west the lode is 1 1/2 ft. wide, and worth 84. per fathom; cost for driving, 55s. Kendall's Lode: The lode in the winze sinking below the 160, west of Ray's shaft, has been discovered, in consequence of several branches crossing the lode. The lode in the bottom of the winze is again looking more promising, and producing saving work. In the 180 cross-cut, north from Union shaft, we have intersected a lode about 3 feet wide, containing good stones of copper ore. We shall now commence driving both east and west on this course.

GAWTON.—G. Rowe, May 31: The ground in the new engine-shaft still continues favourable, and our progress in sinking is between 3 and 4 ft. per week. We have one stop working upon the lode in the back of the 36 fm. level, by four men and boys, which is yielding its usual quantity of ore. We also purpose to put up a rise from the high part of those stops for some short distance, and extend a level therefrom, as far as the nature of the work may require, or the continuation of the ore in length at this point.

GOGINAN.—May 24: The lode in the 100, west of Gilbertson's shaft, is 5 ft. wide, very strong and hard, yielding about 12 cwt. of lead ore per fm. The lode in the 80, west of Bryn Pica shaft, is large, showing a little ore at times, but not of much value; according to its present appearance we expect an improvement shortly. In driving the 80 cross-cut south we have cut through the lode, and have commenced to drive on the south part of it. In the cross-cut south in the 60, or deep adit level, west of Bryn Pica shaft, the water is still issuing from the end, which is a favourable indication. Our progress here is slow, the ground being hard for exploring. We have now fixed air-pipes in the cross-cut, which will facilitate the driving. Tribute: We have a pitch working over the 100 that will produce 12 cwt. of lead ore per fm. The pitch over the 26 will produce 10 cwt. of lead ore per fm.—Level Newydd: In the 60, west of engine-shaft, the lode is yielding pretty good saving work. The lode in the 60 east is 5 feet wide, producing 15 cwt. of ore per fm. The lode in the rise over the 50 is 4 ft. wide, producing good stones of ore.

GRIT AND STAPLEY.—May 12: The works connected with these mines are going on regularly. The 106 fm. level, going west of cross-cut at East Grit engine-shaft, on the south lode, is in a lode about 2 ft. wide, composed of grit-spar, and showing occasionally spots of lead ore. This level is in very hard ground at present, and the lode looks dry and poor; but we hope it will open out more productive before long. The 106 fathom level, going east of cross-cut, is in a lode about 4 feet wide, composed of grit-spar, and containing blende, spots of lead and copper ore; the lode in this end is of a more promising character than that at the western end; the present end is discharging a great deal of water, and we hope, from present indications, to meet with an improvement in this level before long. We have opened out about 7 fms. in length on the line of the lode, to the east and west of the cross-cut; but thus far, I am sorry to say, the lode has been found hard and poor. We are making preparations to commence sinking a winze below the 90 fm. level in the course of a day or two. We have decided to put down this winze about 26 fms. to the east of the engine-shaft, near the cross-course, the reports upon which say the best bunch of ore is gone down below that level. Other winzes will follow to the west of the engine-shaft as soon as the lode is drained of water in that direction. The 90 fm. level, going west of East Grit engine-shaft, on the south lode, is in a lode about 2 feet wide, composed of grit-spar and spots of lead ore; ground very stiff for driving. The 90 fm. level, going south on the cross-course, is in a lode about 3 feet wide, composed of spar, blende, and spots of lead ore; ground hard for exploring. The 90 fm. level, going north on the cross-course, is in a lode about 2 feet wide, looking a little more promising than usual, and is now showing some nice spots of lead ore; the ground at this point is getting a little more favourable, and the end is letting out a great deal of water. We hope for improvement in this level soon. We have thought it advisable to stop the driving of the 60 fathom level south from the Dingle shaft, on the Squiller lode, for the present, as I mentioned to you in a previous letter that we had met with a small cross-course in this level which completely cut the lode. We drove on about 3 fms. to the south of the cross-course, on the line of the lode, and have opened out about 5 fms. east and west on the cross-course; but we can find nothing of the lode passing through. The lode was very weak and small before it came to the cross-course, being not more than 4 in. wide, and poor. Whether this cross-course has any connection with the cross-course at East Grit we cannot tell, but we are inclined to think it has. In the 60 fm. level, going south of Dingle shaft, on the Squiller lode, the lode in the end is split up into small branches, producing some spots of lead ore, but nothing to value. We are making preparations for sinking the Dingle shaft below the 60 fm. level; this shaft will be carried down for a deeper level as quickly as possible. At Lady Well we are driving on the Wood level, but our progress is slow, the air being very bad. The level is extended about 80 fms. from the shaft, and we have no way of driving in air. We shall want a new shaft down upon that line before we shall do much good. We have also thought it advisable, as mentioned to you about a fortnight since, to stop the driving of the Stapley deep adit level for a time; the lode has been very small and poor at this level for some time past, with a very unkind appearance, and the ground very hard and expensive for driving. We have so many poor points in hand at present that we thought it would be best to stop this level for a time. These men are employed in sinking the winze under the 90 on the south lode. The water at the West Grit engine-shaft is forking well; it is now about 16 fms. below the 80 fm. level. We hope to have the water in for the 100 fm. level (the bottom of the mine) by the end of next week, provided the clock under water keeps good. The men from the 80 east are employed in repairing down the shaft below the 80 fm. level, which is in a very bad state, so that we may have the shaft ready to drive through as soon as the water is in for, to clean up the bottom of the mine.

GREAT BRIGAN.—J. Tredinnick, May 21: We are making good progress in cutting down the shaft near the eastern boundary. In the cross-cut driving south from the east boundary shaft at the deep adit level the ground is a little harder than it has been. We have commenced to drive a cross-cut north from Ennor's shaft at the 20, to cut the lode; this I consider is a great speculation, as the lode has not been seen below the adit level. The lode in the 33, driving west of Highbarrow shaft, is unproductive. Nothing new in the cross-cut driving south in the 33. In consequence of the north part of the lode in Highbarrow shaft going down nearly perpendicular, we are only carrying the south part, which is producing a little ore of good quality, and have no doubt the north part of the lode will soon take its regular underlie, and in sinking the two branches will come together, at which point we may reasonably expect an improvement.

GREAT EAST LOVELL.—J. Burgan, May 26: In cross-cutting 40 fathoms we have intersected six well-defined lodes, varying from 3 to 1 ft. wide, composed of conical matrix for tin ore, some of which already bear visible tin. We have also opened upon two other lodes further north, by sinking shafts, both of which contain tin. I may remark that we have been singularly successful in the discovery of so many lodes, and in ground most favourably situated, being not far from the limits of East Loval.

GREAT NORTH DOWNS.—J. W. Crase, M. Jenkin, May 21: The ground in Vivian's engine-shaft, sinking below the 67, is a little easier for sinking. The lode in the 57, driving west of engine-shaft, has improved, being 4 ft. wide, worth 101. per fm. The lode in the 57, driving east of Jenkin's shaft, is 2 ft. wide, worth 81. per fathom. The ground in the 57 cross-cut, south of engine-shaft, is spare for driving. Pendarve's lode, in Rule's shaft, sinking below the 46, is 3 ft. wide, worth 101. per fm., and promising for an improvement. The lode in Rule's shaft, sinking below the 40, against Fielding's shaft, is 3 ft. wide, worth 161. per fathom for tin. No lode taken down in Offord's shaft during the past week. The lode in the winze sinking below the 130, east of Offord's shaft, is full 6 ft. wide, worth 801. per fm. for tin and copper. The lode in the 130 fm. level, driving east of said shaft, is 18 in. wide, worth from 81. to 101. per fathom for tin. The lode in the 130, driving west of Fielding's shaft, is 15 in. wide, producing saving work for tin. The lode in the slope in back of the 130, east of Offord's shaft, is worth 201. per fm. for tin and copper ore. The lode in the 110, driving east of Mathew's shaft, is unproductive. The lode in the 70 fm. level, driving east of said shaft, is worth about 121. per fm. for tin.

GREAT SOUTH CHIVERTON.—J. Nancarrow, May 24: The two ends in the adit are communicated, and we have commenced driving south from the shaft. The ground continues as it has been for the last two or three weeks. We are also sinking another shaft further south, from which, when down, we shall immediately drive north towards the adit end. The lode referred to last week, which presents a very favourable appearance as before, this looks very important, and regards the future value of the mine. The other lodes look quite as well as when last reported on.

GREAT SOUTH TOLGUS.—J. Daw, May 25: In the 166 west the lode is 1 foot wide, unproductive. In the rise in back of the 154 the lode is 3 feet wide, worth 101. per fm. for tin. In the slopes in back of the 154, east of winze, lode 3 feet wide, worth 201. per fm. for tin. In the slopes west of winze the lode is 3 ft. wide, worth 181. per fm. for tin. In the winze sinking below the 125 the lode is 2 1/2 ft. wide, worth 51. per fm. for tin. Other parts of the mine same as reported last week.—P.S. We have sampled to-day 125 tons of copper ore.

GREAT WYLLA ELDON.—J. Hampton, J. Jenkin, May 21: Our tribute settings vary from 8s. to 12s. 6d. in 11. The lowest tributes are at the 25, which is now drained; a proof that the lode improves as we go down. We have set the 25 fm. level to drive east of Buckley's shaft, on the tin lode, at 70s. per fm., and have put men to clear the 25, west of No. 2 shaft, where we expect further discoveries.

GREAT WHEEL BUSY.—John Edwards, John Petherick, Wm. Trelease, May 21: In the 140, driving east of Harvey's engine-shaft, the lode is 3 1/2 ft. wide, worth 101. per fathom for copper and tin. The lode in the 140, driving west of said shaft, is 2 ft. wide, worth about 181. per fm. for tin. The lode in the rise in back of the 140, against Fielding's shaft, is 3 ft. wide, worth 161. per fathom for tin. No lode taken down in Offord's shaft during the past week. The lode in the winze sinking below the 130, east of Offord's shaft, is full 6 ft. wide, worth 801. per fm. for tin and copper. The lode in the 130 fm. level, driving east of said shaft, is 18 in. wide, worth from 81. to 101. per fathom for tin. The lode in the 130, driving west of Fielding's shaft, is 15 in. wide, producing saving work for tin. The lode in the slope in back of the 130, east of Offord's shaft, is worth 201. per fm. for tin and copper ore. The lode in the 110, driving east of Mathew's shaft, is unproductive. The lode in the 70 fm. level, driving east of said shaft, is worth about 121. per fm. for tin.

GRYLLS WHEEL FLORENCE.—Edw. Rogers, E. Rogers, May 26: The engine-shaft is enlarged and timbered 9 fms. below the 10 fm. level, cased, divided, and foot-way fixed from surface to this point. In the cross-cut driving north at the adit level there is no alteration; the present price for driving west is 41. 5s. per fm. In 19 adit, driving west, the lode is 1 foot wide, and unproductive. At surface the masons are getting on very well with building the engine-house.

GREAT WHEEL FORTUNE.—J. Vivian, N. T. Miners, T. George, May 26: There is no change in Carmarthen engine-shaft, sinking below the 102. The lode in the 102, driving east, has improved in appearance, producing rich stones of tin, and a further improvement is anticipated. The lode at Hike's shaft, sinking below the adit level, is 4 ft. wide, stamping work. The 20, driving east of cross-cut on the new lode, is improved, now producing rich stones of copper ore. There will be 95 tons of black tin credited at the next account.

GREAT WHEEL GRYLLE.—E. Rogers, May 26: Michell's shaft is communicated to the deep adit. At this level, driving west, the lode is 1 foot wide, and worth 31. per fathom.—Steven's Lode: At the 27 fathom level, driving west, the lode is worth 61. per fathom. At the 15 fathom level, driving west, the lode is small and unproductive. At Susan's engine-shaft the men are engaged dropping a 10-in. lift of pumps. We hope to see the 10 fm. level by Monday morning.

GWYDYR PARK.—Wm. Smyth, May 23: Since the last general meeting we have driven Gwyn Liffon deep adit west 6 fms. 1 ft. 7 in.; the lode is about 6 in. wide, composed of spar, mndie, blende, and occasional stones of lead ore; the ground is very hard for driving. We have driven gossan and since last meeting 4 fms. 5 ft. 11 in. making 13 fms. 3 ft. 2 in. on this lode; since intersected the lode has been discovered in this end for the last 7 fms.; at present the end is going 10° west of north, on a branch about 6 in. wide, composed of spar, mndie, and blende, with spots of lead ore, which I think is the main part of the gossan lode. The lode has hitherto kept more east than it ought to, but I expect this turn will bring it back to its proper course again. I do not think we have intersected the north-east and west lode yet. I would like to see this end pushed forth under Newton's shaft, to prove the ground; there would also be a good chance of draining the shaft, which could then be sunk much cheaper. We have not taken down any lode in the slopes in back of Gwydyr adit for the month; the last time we took it down it was worth in some places 15 cwt. of lead ore per fm., and I expect it will be fully as good when we break it again. We have about 10 1/2 tons of lead ore broken on the mine, about 10 tons of which is dressed. The water is down about 6 fms. from surface at Newton's shaft.

HAWKMOOR.—J. Richards, May 24: The lode in the slopes in back of the 25 is worth from 2 to 3 tons of copper ore per fm. 3 lodes in the adit level, driving west, is of large size, from 2 to 3 ft. wide, composed of capel, quartz, mndie, and spots of tin ore occasionally. The repairs of the headframe are nearly completed.

HALENBAGLE.—John Edwards, E. Richards, May 21: At the eastern shaft we have been cutting ground for bed-casing below the 30, which is now in readiness for the same. We have completed the timbering up of the collar of the old engine-shaft. Here

we purpose fixing footway below the deep adit, and also to fix the horse-winch in the coming week. The men are still engaged clearing and securing footway, which is in the centre of the mine. We hope to complete the buildings for steam-whim in the coming week, when no time will be lost in the erection of the same. The water has gone down during the past week about 3 feet.

HINGTON DOWN CONSOLS.—T. Richards, May 25: The 110 west is worth 301. per fathom. The slope in the back of this level, near the end, is worth 61. per fathom. The 100 west is worth 101. per fm. The 85 west is worth 181. per fm. The slope in the back of this level is worth 301. per fm.

KELLY BHAY.—G. Rowe, May 25: There is nothing in the mine new of any particular importance to communicate for the moment. The south branches in the 70 east, alluded to in last report, have joined the lode in the upper part of the end, which is still producing good stones of copper ore. The lode beneath the junction is about 1 ft. wide, being composed of peach, fluor-spar, and mndie, of a kindly appearance. The ground in the 60 cross-cut north continues to be of the same mineralised character, but not quite so easy for progress. The 40 east, on the north lode, is without change. The 25, east from western shaft, is still yielding a little ore. The slopes in back of this level are worth 1 ton of ore per fathom.

LANIVET.—J. Tregey, May 24: The lode in Oulton's shaft is producing stones of tin; ground rather hard for sinking. In the new winch-shaft the lode is producing good quality tinstuff.—Tregey's Lode: The lode in Petrie's shaft is producing stones of tin; ground favourable for sinking, but the progress made here is limited until we get the flat-rods ready, to complete which we are using every dispatch.

LADY BERTHA.—Capt. Harper and Metheerell, May 23: In the 53, west of shaft, we have this day commenced taking down the lode; so far as seen, about 18 in., it is composed of mndie, peach, and ore, or 61. per fm. In Wotton's rise above the back of this level the lode is composed of mndie, peach, and ore, good saving work. We hope shortly to commence this with the rise below the 41, suspended some time since in consequence of water. The lode in the 63, east of shaft, about 2 ft. wide, composed of peach, mndie, quartz, and iron, with occasional stones of ore. In the 41 east the lode is about 2 ft. wide, consisting of quartz, capel, mndie, and peach, intermixed with ore. The 30 east is without any particular change, the ground being traversed by branches, carrying peach, mndie, and spots of ore. In the end driving north at the 10, east of shaft, on the cross-course, the ground is of a congenial character, carrying mndie, with spots of grey and black ore. The sinking of the new eastern shaft below the 30 continues to progress pretty favourably. The tribute department is without any material change, yielding much the same as for some time past.

LEAWOOD.—John Nicholls, Richard Andrews, May 25: We beg to hand you the following as our report of progress made since the commencement of this mine.—The adit level has been cleared and secured 120 fathoms, and there are now four men and two labourers engaged in it, and we consider good progress is being made. The engine-shaft has been new timbered about 5 fathoms, and will be made secure from surface to the adit (15 fathoms) in about one week from this time. At surface the old engine-house, boiler-house, and stack have been taken down and removed, and foundation for the new engine-house laid yesterday. The masons are now actively employed in building, and we hope in two months from this time to have the house completed. The smith's shop has been repaired, and the smith is at work. The captain, &c., is in a forward state, and all other work going on satisfactorily.

LLANTWIT YARDRE COLLIERY.—E. Francis, May 16: Our progress upon all points of operation during the past fortnight is highly satisfactory. We have raised 90 tons of coal, which, deducting 50 tons consumed by the engine-boilers, leaves an increase of 40 tons, in addition to 30 tons in stock when last reported, leaving now on bank about 70 tons. That raised from the east level heading is far superior to any that we have yet seen from this colliery. I entertain a strong opinion that after we drive the eastern level heading another 40 fathoms we shall then get into strong coal under a solid rock top, which will be a great gain to us. The present state of the weather has been threatening the progress of our underground work, and, fearing it would do so, I have at once fixed 30 fathoms of temporary air-pipes, so as to convey a supply of fresh atmosphere, which has had the desired effect, and will enable us to complete our communications without much difficulty.

MAUDLIN.—J. Tregey, May 21: Old Mine: The lode in the 70 west end produces stones of copper ore and mndie.—West Mine: The sinking of the engine-shaft is progressing satisfactorily.—Coombe: In the adit level we have intersected a branch, producing sugar spar and spots of copper ore; ground favourable for driving.

MIXERA UNION.—W. T. Harris, May 26: Brabner's shaft has been communicated with the cross-cut on the 80. We have now good ventilation, and a more expeditious way for delivering the stuff to surface. A few days will be required to square down the shaft, remove penthouse, and cut plat, &c., at the 80, after which the drivings on course of the lode will be prosecuted as fast as possible.—William's Shaft: The 40, on the east lode, has a little improved, now worth 8 cwt. of lead per fm., and very promising. The pitch in the bottom of this level, south of shaft, is worth 10 cwt. of lead per fm.

MOLLAND.—T. Bennetts, May 25: In the 62 east we have cut through the slide in the bottom of the end, and had the counterpart of the lode disordered a little, though spotted with ore. A few feet more must, however, be driven, to get out of the influence of the slide, before much can be said respecting the character of the lode. The small branch of ore, which we have now got, has been worn out, and the men are now raising a few feet further west, where there is a large, promising lode, producing from 1 1/2 to 1 ton of grey ore per fathom. The slopes in back of the 42 east are producing 1 1/2 ton of ore per fathom; and the slopes in back of the north part of the lode, in the 32 east, are producing 1 ton of ore per fathom.

NEW ROSEWARNE.—E. George, W. Mitchell, May 25: Setting Report: The 74 to drive west of Phillip's shaft, by four men, at 81. 10s. per fm.; lode 2 ft. wide, composed of spar, kilaas, iron, and mndie. The 74 to drive east of Bickford's shaft, by six men, at 71. per fm.; lode 4 ft. wide, producing a little tin, but not to value. The 74 to drive west of Bickford's shaft, by six men, at 41. 10s. per fm.; lode 2 ft. wide, producing a little tin, but not to value. The 74 to drive east of Bickford's shaft, by six men, at 41. 10s. per fm.; lode 2 ft. wide, producing a little tin, but not to value. The 74 to drive west of Bickford's shaft, by six men, at 41. 10s. per fm.; lode 2 ft. wide, producing a little tin, but not to value. The 74 to drive east of Bickford's shaft, by six men, at 41. 10s. per fm.; lode 2 ft. wide, producing a little tin, but not to value. The 74 to drive west of Bickford's shaft, by six men, at 41. 10s. per fm.; lode 2 ft. wide, producing a little tin, but not to value. 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per fathom; the lode is 3½ feet wide, yielding stones of copper ore, but not enough to value. In the rise in the back of the 72 east the lode has gone out to a splice, but another splice appears to be coming in. We have stopped this rise for the time, and put the men to slope the eastern end of the rise; set to six men, stand 6 fms., at 31. per fm.; the lode yielding 2 tons of copper ore per fm. To fill and land all the stuff in the mine, for two months. The engine has been communicated the rise in the back of the 81 east with the 72, which has given good ventilation.

**WHEAL EDWARD.**—Geo. Rowe, May 21: At the 105, west from engine-shaft, the lode is becoming more porous, from which an increased quantity of water is issuing. There is not much change in its general character, being principally composed of spar, mndic, with spots of ore. The lode in the 92 west is 6 ft. wide, improving in character, worth 1½ ton of ore per fm. The lode in the rise in the back of this level is 2½ ft. wide, producing a little ore; it is exceedingly wet, and slow of progress. The lode in the 61 west is small, wide, composed of capel, spar, mndic, with occasional spots of ore. The west end south lode is becoming more porous, and is at present small and unproductive. The lode in the steps in the back of this level is yielding 1 ton of ore per fm.

**WHEAL GRENVILLE.**—George R. Odgers, William Burgess, May 26: I am now come up from underground, and we have cut into the lode 18 inches in the 130, and we have bored 16 inches farther, without any signs of a wall. The character of the lode, so far as seen, is precisely the same as it was in the upper levels. We have vanned some of the stuff, and it shows tin, but we cannot at present say much about it. In looking at the winze sinking below the 100, we are more convinced than ever that we have another part standing north in the 100. We have the steam up in the stamps, and we shall try to get the engine this afternoon.

**WHEAL GLEN.**—John Rogers, James Pope, May 26: Fisher's Lode: In the 40 fm. level, east of Annie's engine-shaft, the lode is small and unproductive. In the 30 fm. level, east of Grylls shaft, the lode is 2 ft. wide, worth 87. per fm. In the 15 fm. level, east, driving west of King's shaft, the lode is 2 ft. wide, worth 37. per fathom, and opening tribute ground.—Standard Lode: In the 25 fathom level, driving east of the eastern shaft, the lode is 3½ ft. wide, worth 41. per fm. In the 15, driving east, the lode is 2½ ft. wide, and will just pay for driving, which is 21. 10s. per fm.—North Lode: In the 15 fm. level, east, west of whim-shaft, the lode is small and poor.—Georgia Lode: In the 30 fm. level, east, driving north of Georgia engine-shaft, the lode lode is worth 182. per fathom. In the slope in the back of the 23 fathom level the lode is worth 182. per fathom.

**WHEAL HARRIET.**—Williams, May 21: Since the last general meeting of the adventurers of this mine, the 130 has been communicated with the winze sunk below the 115; this winze is 64 fms. east of shaft; in the whole of this driving the lode has not been to value, and the winze has also been unproductive, and the present end to the east of the winze is unproductive. I think this part of the lode has had sufficient trial, but the main part of the lode is to the north of the level driving, and we are driving a cross-cut north from winze in the 130; this cross-cut is extended 9 feet, and in about 3 fms. further driving I expect to cut the north part of the main lode; and about 5 fms. further, I expect to reach another level, which I think to be the new north lode; this lode has not been seen before, the adit level, the exception of the 115, were we are now driving west on it, to the east of the 115 winze; we have opened on this lode in the 115 about 12 fms.; the lode in this driving has produced some copper ore of good quality, but not in quantity sufficient to value; the lode in the present end is 6 inches wide, producing stones of copper ore, and letting out water, which, I think, an indication that we have a larger lode before us. The slope below the 100, to the east of the winze, is become poor, and is suspended; the slope to the west of the winze is worth about 101. per fm., but the ground in this slope is also very nearly exhausted. I would advise the following operations for the next four months in this part of the mine—to drive a cross-cut west from the 115, to the 115, at the engine-shaft, to prove the north lode at this point, and drive the present cross-cut north from bottom of the winze in the 130; also to drive west from the east cross-cut in the 115, on the north part of the main lode, and also to drive west the present end in the 115, which I think to be the new north lode.—Alexander's Lode: The 24 is extended east from shaft 15 fms., the lode in this driving has been unproductive, and the 24 driven west from shaft 3 fms.; in this driving the lode has produced stones of copper ore, but not to value; this end is very near the cross-course, and when we cut it, I think it advisable to cross-cut north to the north lode, and south to the main lode in this level. The 12 has not been driven since the last meeting, but may be sinking a winze below this level in the present end, the lode in which is small, and is not productive. The adit level, extended east from shaft 55 fms.; the lode in the last 30 fathoms has been unproductive, and the present end of the lode is small and poor. The adit cross-cut has been driven to the south and north boundary; to the south of main lode we have not cut any lode worthy of notice. In the north cross-cut, to the north of Alexander's lode, we have several branches, and about 30 fms. north of this lode we are driving on a lode which is about 6 in. wide, producing good stones of copper ore; this is a kindly lode, and worthy of a trial at a deeper level; but Alexander's lode has been of no value in any of the levels since the last meeting, and at present are not of a promising character, therefore I would advise the suspending operations for the next four months in this part of the mine—the adit east and the adit west end, driving north, and the 12 winze, and as soon as the cross-course is cut in the 24 west end, driving north, to carry out these points, estimate the cost to be 3000. per month for the next four months; and if we get no improvement in these operations, our sales of copper and tin will not exceed 500. per month; but I still hope, by the driving of the 130 cross-cut north, the 115 cross-cut north, the 115 west on the north part of the main lode; the 115 west on the new north lode; the cross-cut, north and south of Alexander's lode, the adit east and Alexander's lode, and the adit east east on the north lode, to meet with more copper and tin than the present prospects represent.

**WHEAL HOPE.**—W. H. Reynolds, May 24: The lode in the shaft is 2 ft. wide, and yielding good stones of copper ore. The 75 west we are cutting into the lode, and breaking up some good work, but it will take two or three dollars more to get through the lode, and we have a good lode in the 65 fm. level and 58 fm. level west in the south part, and the mine throughout is looking much the same as for some time past. I hope we shall get the crusher to work by the end of this week.

**WHEAL KITTY (Uny Lelant).**—W. Williams, May 26: Gowan Lode: Wickett's shaft is sunk below the 70 fathom level 4 fathoms; the lode is worth 77. per fathom. In the 90 and east the lode is at present small. The lode in the 80 and east is worth about 27. per fm. In the 80 and west the lode is small, not of any value. The lode in the 70 and east is worth 41. per fathom. The lode in the 70 and west is at present small, and is not productive. The dip of tin in the pitch below the 60, where the lode is very rich, worth full 70. per fathom. The lode in the 60 and east is worth 67. per fathom. The lode in the 50 and east is worth 47. per fathom. The lode in the 40 and east is worth 37. per fathom. The lode in the 30 and east is worth 27. per fathom. There is no change to notice in any other part of the mine.

**WHEAL KITTY (St. Agnes).**—S. Davey, W. Polkinghorne, May 21: Engine-shaft, Old Lode: There has been no lode taken up in the 100, east of this shaft, since our last report. In the 72, east of ditto, and west of cross-cut, we have met with another cross-course, which has again been the lode northwards. The lode in the 54, driving west of 55, driving east, is still of the very promising.—New Shaft, Pryor's Lode: The lode in the 105, driving east, is still of the very promising character, and the present end of the shaft, for a great length. In the 122 east the lode is worth 81. per fathom. No. 1 slope, in the back of the 122 east, is worth 67. per fathom. No. 2 ditto is worth 91. per fathom. No. 3 ditto is worth 61. per fathom. No. 4 ditto is worth 71. per fathom. In the 122 west the lode is worth 61. per fathom. No. 1 slope, in the back of the 122, is worth 61. per fathom. No. 2 ditto is worth 121. per fathom. No. 3 ditto is worth 81. per fathom. No. 4 ditto is worth 81. per fathom. No. 5 ditto is worth 121. per fathom. In the 110 east the lode is worth 87. per fathom. In the 110 west the lode is poor. No. 1 slope, in the back of the 110 west, is worth 101. per fathom. No. 3 ditto is worth 101. per fathom. In the 110 east the lode is worth 41. per fathom. The slope in the back of the 100 east is worth 61. per fathom. In the 100 west the lode is worth 41. per fathom. The slope in the back of the 100 west is worth 61. per fathom. No other change.

**WHEAL NORRIS.**—J. Andrews, May 21: Carter's shaftmen have completed the casing and dividing of the shaft to the 45, and I hope in eight or ten days from this time they will finish outfitting the plat, when they will at once resume sinking below this level. In the 35 fm. level, east of Carter's, they are driving by the side of No. 4 lode, and no lode has been taken down the week. No. 5 lode, in the 85 fm. level, east of the same shaft, is 2½ ft. wide, producing a little tin, but not sufficient to value. The ground in the 35 fm. level cross-cut, driving north of Carter's shaft, continues favourable for driving.

**WHEAL POLLARD.**—Wm. C. Cook, May 21: We are progressing favourably with cutting the plat, &c., in the 38. I have set this, together with putting in skip-road, casing, and dividing the shaft, taking out old pent-house, and putting in new landing brace, &c., at 701. per bargain.

**WHEAL PROSPER.**—S. Mitchell, May 26: There is more water coming from the cross-cut, which is a good indication of being near the lode. The lode in the end, driving west of cross-cut, is showing much more favourable appearance, with a considerable increase in the quantity of tin, and we are beginning to believe in the value of the lode.

**WHEAL SPARNON.**—W. Tregar, E. Chegwain, May 21: The engine shaft has been set to cut down by 12 men, at 81. 10s. per fathom. The buildings are being rapidly proceeded with. No other change to report.

**WHEAL UNY.**—S. Conde, M. Rogers, May 21: Tin Lode: We have put the men in the 110 west to cut through the lode to prove it. The 100, east and west, is much the same as reported last week.—Copper Lode: There is no change in the ends.

**WORVAS DOWNS.**—R. Harry, May 25: Good progress is being made in sinking Bannell's shaft below the surface, and the appearance of the lode is such as to warrant a belief in the value of the lode. The engine shaft has been set to cut down the above shaft was completed and set in motion on Saturday last. In the 100, driving north, the men are making fair progress, and the general appearance of the ground in this end is more congenial for tin than we have hitherto seen it. The 60, driving on the causter, is still in a large promising lode, yielding saving work for tin. We are pushing on this end with all speed, with the hope of meeting with a more productive lode shortly, which would be very important in this direction, being in whole ground to surface.—South Lode: In the deep adit east the lode is somewhat disordered by a horse of granite, worth at present 61. per fathom. During the last week we have commenced the 10 east, by four men; at 61. per fathom the lode is 15 in. wide, producing good stones of tin, saving work, and the lode is showing a good appearance, and is of good value.

**YARNER.**—R. Barkell, May 25: There is no change in any of the underground bargains since last reported on. The two stops at the 30 and 40 continue to yield the usual quantity of ore—the one 3 and the other 4 tons per fm. The shaft on the north lode is being sunk as fast as possible.

**HOLLOWAY'S OINTMENT.**—All varieties of ulcerations, bad legs, sores, wounds, and eruptions can be cured by the diligent use of this cooling, soothing, and healing unguent. The old and often failing fashion of strapping the edges of ulcers together with plaster has entirely given way before the more reasonable treatment by Holloway's ointment, which builds up from the bottom of the wound with sound and healthy granulations; these gradually grow till they reach the level of the surface, then contract and the ointment is absorbed, leaving the skin healthy and whole.

The proper application of this ointment diminishes the inflammation, and the healthy discharge starts to grow thick, then to cease, when the swelling disappears, and the natural shape is restored.



## METALLIC EXPORTS AND IMPORTS.

The following are extracts from a return of exports and imports for 12 months, ending Dec. 31, 1863, ordered by the House of Commons to be printed, on the motion of Mr. Richard Davey, M.P.:

**COPPER.**—There were imported into the United Kingdom in the past year, 80,693 tons of copper ore; 21,406 tons of regulus; besides copper unwrought, partly wrought, and manufactured, to the amount of 22,081 tons. The countries from which the copper ores were chiefly imported were—Chili, 25,966 tons; Cuba, 15,570 tons; Spain, 7689 tons; Bolivia, 6722 tons; South Australia, 5196 tons; South Africa, 3155 tons; United States, 2049 tons; Peru, 1843 tons; British North America, 1775 tons; while from various other countries lesser quantities were received. Of the regulus imported—21,406 tons—no less than 18,708 tons came from Chili.

The British copper exported in the year amounted to 43,083 tons, of which 12,792 tons were unwrought, 51 tons in coin, 29,674 tons in sheets, nails, &c., 525 tons in wrought copper of other sorts, &c. The largest quantity of the British copper exported—14,406 tons—went to India; 9371 tons to France; 2613 tons to Egypt; 2082 tons to Holland; 1176 tons to Russia; 1660 tons to Italy; 1063 tons to Turkey; and smaller quantities to other countries. Foreign copper was also exported from England in the following quantities:—990 tons of ore, 1962 tons unwrought, 4325 tons part wrought, 34 tons of coin, 2956 tons copper manufactures.

**TIN.**—The imports of tin into the United Kingdom during the year ended December 31, 1863, were as follows:—

	Tin	Tin ore and regulus.
Hamburg .....	7	—
Holland .....	622	12
France .....	14	26
Spain .....	102	—
Italy .....	184	6
Singapore .....	1582	185
Victoria .....	65	—
United States .....	8	13
New Granada .....	46	—
Chili .....	25	—
Bolivia .....	25	215
Peru .....	2	—
Other parts .....	—	—

Total imports .....

The exports of tin from the United Kingdom in the past year amounted to 4415 tons British, 1135 tons Foreign, and 4 tons regulus of tin. Of the British tin exported, the largest quantity went to France, 1303 tons; our next best customers being the United States, 715 tons; Russia, 500 tons; Turkey, 261 tons; Prussia, 238 tons; Spain, 210 tons; Holland, 196 tons; whilst other countries took smaller quantities. Of the foreign tin exported, 1135 tons, no less than 705 tons were sent to France.

**ZINC.**—Of zinc or spelter, 34,572 tons were imported in the year, and 1834 tons of ore of zinc. The exports amounted to 5307 tons of British zinc, 4825 tons of foreign, 801 tons of British zinc ore, and 169 tons of foreign oxide of zinc.

**LEAD.**—The pig and sheet lead imported in the past year amounted to 28,604 tons, and the lead ore to 878 tons. Most of the lead came from Spain, whence were imported 23,347 tons of pig and sheet lead. The exports of lead amounted to 275 tons lead ore; 26,758 tons pig; 4725 tons rolled and sheet; 2144 tons of piping; 2425 tons of shot; 583 tons of litharge; 2704 tons red lead; and 2910 tons white lead. China was our best customer for lead, having taken 14,152 tons, whilst the United States was our next best, having taken 2376 tons; Russia, 2041 tons; and other countries smaller quantities.

## MINING NOTABILLIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

**GREAT SOUTH CHIVERTON.**—The men are working night and day in driving up the adit to intersect the lodes, and it is confidently asserted that they will be cut rich when intersected. There is no doubt entertained of the success of this venture by the residents of the district, and as a proof numerous applications are being received from them for the shares.

**CWMEIRIAN (Gold).**—Some more visible gold has been found here, associated with blende, copper, and galena. The Hungarian mine will soon be ready to work.

**EAST JANE.**—A sampling of 20 tons of silver-lead ore, in two parcels of 8 and 12 tons, took place at this mine on the 21st inst., the yield of the first being 17 lb 20 for lead and 9 oz. of silver, and the second 12 lb 20 for lead and 7½ oz. of silver. The 26 fm. level south is represented as showing greater indications of durability of productivity than at any former period, and the prospects of the mine altogether are most encouraging.

**PRINCE ARTHUR CONSOLS (late Wheal Betay).**—This old mine, which adjoins Great Wheal Friendship, is again set to work. An immense capstan-rope for this mine, manufactured by Mr. John Cox, was taken through the town of Tavistock on the 28th inst. The rope measures 220 fms. in length, and is 14½ in. in circumference.

**FURDION.**—The appearance of this mine continues to improve, and its monthly returns are more than sufficient to pay its cost. The whole work is now done on tribute, pending the completion of arrangements for the increase of capital resolved upon by the shareholders at the general meeting. The lode discovered last month in the bottom of the 11th west is 12 ft. wide, and is valued at 200 lb. per cubic fm. A pitch has just been set upon it at 5s. in 12. It will be seen that the ore from this mine fetched a good price at Truro on the 19th inst., and owing to this last discovery the next month's sale is expected to show a still further improvement both in quality and quantity.

**WHEAL CURTIS** is steadily improving, more especially in the eastern part of the mine, where there are good stores of ore at Square's shaft, which is a most important point. The lodes in back of the 30 are also improved.

**NORTH GRILLS.**—This mine is situated in the parish of Germoe, Cornwall, between the celebrated Great Work Tin Mine and the rich Grylls Mines. A local proprietor has expended about 2500l., and raised about 2000l. worth of tin and copper. It is now considered that with proper machinery, which will cost about 1500l. or 2000l., dividends will soon be paid, as there are large reserves of tin ground, which will be profitable to the adventurers as soon as stamping-power is erected; the main lode is from 6 to 10 ft. wide, fair stamping work, producing about 14 lbs. of tin per ton of stuff, and there are several other good lodes in the sett. This mine will be brought out legitimately, without any heavy premium. The purser is Mr. W. Argall, Breage, accountant at the Great Wheal Vor Mines.

**TIN HILL.**—The development of the prospects of this mine is so very satisfactory, and confirms so fully the opinion entertained by practical men at its commencement, that it would become a rich tin property, that is decided to erect an engine to open the lode to the surface, and to sink a shaft to deeper levels, and thus enable the mine to give substantial profits. The erection of the engine will be proceeded with vigorously, and it is considered that in two months it will be at work, when the rich lodes in the bottom levels will be immediately followed, and extensive returns be made. There are at present several points on the various lodes which are turning out well, and as it is found that the present number of stamps is inadequate to render marketable the tinstuff produced, they will be immediately increased by eight more heads. A batch of tin is preparing for the market. The mine is a favourite with those who know its prospects, which from its position appear to be very good.

**EAST WHEAL LOVELL.**—The general meeting, held at Helston on Thursday, was presided over by Mr. H. Rogers, the purser, and attended by a large number of shareholders. The accounts showed a profit upon the four months' operations of 1072l. 7s. 2d. A dividend of 10s. per share was declared, after the payment of which the balance to be carried forward to the credit of the next account would be increased nearly 200l. This was considered most satisfactory, inasmuch as during the period embraced in the accounts the decline in the price of tin had made a considerable difference in the amount realised by the sales; as much, indeed, as 2s. 6d. per share. The report of Capt. Borgan (the agent), which appears in another column, was regarded as highly encouraging, the lode at the bottom of the shaft being of greater value than at any previous point. We regret our inability to publish the proceedings of the meeting this week, but they will appear in *extenso* next week.

**MINING AS AN INVESTMENT.**—In the Camborne and Illogan mining district there are at the present time 41 mines, the names of which appear in the columns of the Journal. Of these 41 mines, 8 are returning large and regular dividends, amounting to many thousands per annum, with every probability of continuance. Three are in the list of mines in abeyance, and 30 are in the Progressive List. Looking at these separately, the outlay upon the dividend-mines has been 166,374l., and the dividends in the present workings 1,274,251l.; while the outlay on the mines with dividends in abeyance has been 65,702l., and the dividends 301,799l. In addition to this, four of the eleven mines above mentioned have returned dividends in previous workings exceeding one million sterling—Dolcoath, Cook's Kitchen, Tincroft, and Wheal Fanny (now part of Carn Brea). Of the mines contained in the Progressive List, nine have returned large dividends, either in the present or previous workings, exceeding in the aggregate 600,000l.—North Roskear, South Roskear, North Croft, South Croft and Wheal Croft (formerly worked together as East Wheal Croft), Roskearnoweth (formerly Wheal Gerry), Stray Park, and Camborne Vean. The calls upon these 30 progressive mines have been 561,000l., and the market value is about 400,000l.; while there is not one single mine which is not likely—nay, even sure, with careful management—to give large returns. The totals of the Camborne and Illogan district may be roughly summed up thus:—Total outlay, under 1,000,000l.; dividends, at a low estimate, 3,250,000l.; market value, 1,093,300l. This is only one of the rich mining districts of Cornwall.

Some interest is felt at Redruth as to who will succeed Capt. William Richards in the management of the different mines he was connected with; for four mines alone—Wheal Basset, East Basset, South Basset, and Grambler—he realised an income, as purser, of upwards of 4000l. a year. Mr. F. W. Dabb, of Redruth, who for many years has been the confidential clerk of Capt. W. Richards, and who is much respected in the neighbourhood, is a candidate for the purser'ship of Wheal Basset; and a circular has been issued by gentlemen representing nearly 200 shares, wishing to place Mr. Dabb in as purser, and Capt. Pope as managing agent, calling a meeting for Monday next; these gentlemen are in favour of a committee of management. Captain Thomas Richards, one of the late purser, is desirous of succeeding his father in the management, so that a severe contest is anticipated.

**FATAL MINE ACCIDENT.**—Wm. Fisher, aged 44, of Stokeclimsland, a miner working as a pitman in New Wheal Martha, fell down the shaft, and on being taken up life was found to be extinct—he had broken his neck.

\* With last week's Journal a SUPPLEMENTAL SHEET was given, which contains—The Great Wheal Vor Mining District; On the Mechanical and Chemical Treatment of Gold and other Metals; Professor W. W. Smyth on the Ventilation of Mines, at the Royal School of Mines; On Fuel; Application of Electricity in the Manufacture of Steel; Novelty in Shipbuilding; Extracting Gold from Sludge; Large Mass of Native Copper; Reports from Foreign Mines; Carn Camborne; Progress in Spain; The Operation of the Patent Laws, with Suggestions for their Better Administration; Geometrical Drawing; Mining and Metallic Production in the United States; The Gold-digging in New South Wales; The Copper Trade, &c.

\* With the Journal of May 14 a SUPPLEMENTAL SHEET was given, which contains a Plan of the Great Wheal Vor Mining Districts; Plain Papers on Geology: No. II.—Bolivia, and its Resources—Transactions of the North of England Institute of Mining Engineers—the Institution of Mechanical Engineers; the Institution of Civil Engineers; the Foremen Engineers—Atmospheric Gas—Pumping Engines—New Patents—Iron Architecture—Induration of Iron—Improvements in Iron Making—Reports from Foreign Mining Companies, &c.

## The Mining Market; Prices of Metals, Ores, &amp;c.

METAL MARKET—LONDON, MAY 27, 1864.

COPPER.			BRASS.		
Best selected	per ton	£ s. d.	Sheets	per lb.	Per lb.
Tough cake	101	0 0	Wire	9½d.-10½d.	9½d.-10½d.
Tin	98	0 0	Tubes	9½d.-10½d.	9½d.-10½d.
Burra Burra	100	0 0	FOREIGN STEEL.		
Copper wire	0 1 0	—	Swedish, in kegs (rolled)	16	0 0
Copper tubes	0 1 0	—	" (hammered)	16	0 0
Sheathing & bolts	105	0 0	Ditto, in fagots	17	0 0
Bottoms	110	0 0	English, Spring	18	0 0
Old (Exchange)	91	0 0	Bessemer's, Engineers' Tool	44	0 0
IRON.			Spindle	30	0 0
Bar, Welsh, in London	8 2 6	5 0	QUICKSILVER	7	0 0
Ditto, to arrive	8 5	0 0	SPELTER.		
Nail rods	9	10 0	Foreign	22	10 0
Stafford, in London	10	0 10 10 0	To arrive	22	15 0-23 0 0
Bars	10	15 0-11 0 0	BING.		
Hoops	10	15 0-11 10 0	In sheets	26	10 0-27 0 0
Sheets, single	11	15 0-12 10 0	TIN.		
Pig No. 1, in Wales	4	10 0	English, blocks	108	0 0
Refined metal	4	0 0	Ditto, Bars (in barrels)	109	0 0
Bars, common	7	6 7 10 0	Ditto, Refined	113	0 0
Do, merch., Tyne or Tees	8	10 0 0 0	Banca	112	0 0
Ditto, railway, in Wales	7	10 0	Straits	116	0 0
Ditto, Swed., in London	12	5 0	TIN-PLATES.		
To arrive	12	5 0	IC Charcoal, 1st qua. p. box	1	9 0-11 0
Pig No. 1, in Clyde	2	19 3 3 6	IX Ditto 1st quality	1	15 0-17 0
Ditto, f.o.b. Tyne or Tees	2	16 0-2 18 0	IX Ditto 2d quality	1	7 0-1 8 6
Ditto, f.o.b. ditto	2	15 0	IX Ditto 3d quality	1	13 0-14 6
Ditto, f.o.b. ditto	2	15 0	IX Coke	1	4 0-1 5 0
Railway chairs	5	10 0-16 0	IX Ditto	1	10 0-11 0
" spikes	11	0 12 0 0	Canada plates	1	10 0-14 0
English Pig, ordy.	21	12 6-22 0 0	In London; 20s. less at the works.		
Ditto (WB)	22	17 6-23 0 0	Yellow Metal Sheathing, p. lb.	9d.	—
Ditto sheet	22	5 0-22 10 0	Sheets	p. lb.	9d.
Ditto red lead	22	0 0	Indian Charcoal Pigs	7	0 0-7 10 0
Ditto white	26	0 0-27 0 0	In London		
Ditto patent shot	24	0 0			
Spanish	21	0 0-21 5 0			

\* At the works, 1s. to 1s. 6d. per box less.

**REMARKS.**—We have again the pleasure of recording a further fall in the Bank rate of discount, the directors of the Bank of England having announced on Thursday last a reduction to 7 per cent. We anticipate very favourable results from these gradual reductions, and have no doubt that, as the Money Market becomes easier, we shall find business in the Metal Trade become better; buyers will have more confidence, and operators, who have been holding back while the money market has been so tight, will now, probably, come forward and enter into transactions. There seems, also, now good ground to hope that the Danish question will be settled without a return to war, which will, of course, very considerably revive the trade with the Continent; and, by removing all fears of this country being drawn unwillingly into war, will tend greatly to improve commercial affairs generally, and, as a matter of course, the metal trade will largely share in a revival of commerce. Advances from India do not yet seem very favourable, and orders are exceedingly scarce; it is desirable that a better state of things should arise in that important part of the British dominions.

**COPPER.**—The demand has not much improved, and the market remains quiet; manufactured may be bought at 2l. to 2l. 10s. under fixed prices; the reduction in the Bank rate may, probably, make the market somewhat firmer.

**IRON.**—In Staffordshire the demand for manufactured is still dull. For the North Sea and Baltic ports there is more demand, as the German merchants are anxious to secure a supply while the cessation of hostilities continues. The United States trade, however, as anticipated, is checked by the duty of 50 per cent.; and the execution of orders has been so far countermanded as to require delay in shipments, in order to prevent arrivals during the operation of the advanced duties. It is almost certain that this important branch of the iron trade will be checked, though it is hoped that it will be only temporarily. In the Welsh iron trade there exists a moderate state of activity, and the first-class makers maintain their prices; the advance in the American tariff has, however, given a great check to the demand on American account, and hardly a specification is given out by American houses, except to complete old orders. Swedish iron still maintains its price, but we anticipate rather easier rates before long. In Scotch pig-iron the shipments have again been very large, amounting to 16,599 tons. This, together with the anticipation of the settlement of the Danish question, have caused the market to become rather firmer, and at the commencement of the week 59s. 3d. cash, was paid, and 60s. 9d. three months; the price still further advanced on the following day to 59s. 7½d. cash, and 61s. 1½d. three months; and afterwards to 59s. 9d. cash, 60s. 3d. one month, and 61s. 3d. three months. The last advice, however, are not quite so favourable; as, notwithstanding the reduction in the Bank rate, the market was dull, closing, buyers, 59s. 6d. cash; sellers, 59s. 7½d. cash; buyers, 58s. 10½d. one month; sellers 60s. three months.

**LEAD.**—The market is rather easier, and prices may now be quoted at from 21l. 12s. 6d. to 21l. 15s. for soft English pig, and from 22l. 17s. 6d. to 23l. for WB.

**TIN.**—An improvement has taken place in foreign, sales of Straits having been made at 106l. cash, and 108l. full prompt; but English can still be bought at 2l. to 3l. under fixed rates.

**SPELTER** continues to improve, and is now in more active request; transactions have taken place at higher rates; 150 tons, on the spot, have sold at 22l. 10s., and, more recently, 100 tons at 22l. 15s.; 150 tons, for June and July, at 22l. 15s.; since which 350 tons, for July and August, have sold at 23l. The market remains firm.

**STEEL** is without any improvement.

**TIN-PLATES.**—The trade is affected by the announcement of the advance in the American tariff, which has given a decided check to the demand on American account, and it is expected that during the continuance of this high protective duty the shipments to that country will be greatly reduced.

**QUICKSILVER** is selling at 8l. 15s. per bottle, for second-hand parcels.

**GLASGOW, MAY 26.**—The iron market has been weaker: 59s. 9d. and 59s. 6d. cash have been accepted. Closing buyers at 59s. 6d.; sellers, 59s. 7d. cash. No. 1, g.m.b., 59s. 3d.; No. 3, 58s. 6d.

**BOSTON, MAY 9.**—English Cannel Coal is quiet, and prices are nominally \$15 to \$17 per ton, for small lots. Pitou and Sydney are steady, at \$8 to \$8.50 per ton. In anthracite there have been steady retail sales, at 12l. per ton, cash. The demand for Pig-iron is steady, and the market sustains full prices. There have been sales of Scotch, Garthsherrrie, and other brands, No. 1 at \$60 and \$62.50. American pig is scarce, and sells from \$60 to \$62 per ton, cash. Bar-iron is very firm, and the sales have been small, but at full prices. In Russia sheet-iron nothing of any consequence has been done. A small lot of 30 packs, No. 8, sold for 40 c. per lb., cash, a very extensive price.

**NEW YORK, MAY 11.**—The demand for domestic Coal is active, and we are without addition to our stock. Prices are firmer at the close, and tend upward. We quote from yard at \$9 to \$10.25 per ton. Foreign is scarce, and much wanted; sales of 500 tons Liverpool gas coking, at \$13, cash. Refined Ingot Copper is less active, and not quite so firm. Sales of Baltimore and Lake, at 43 c. to 43½ c., cash. Other kinds are quiet and unchanged. Sales of new sheathing at 55 c., and yellow metal at 3 c., six months. Iron is inactive, and the market is unsettled, owing to the violent fluctuations in gold and exchange; sales of 150 tons Scotch pig, in lots, at \$60 to \$62 per ton, from yard, the latter an extreme, and 39 tons English scrap, at \$79, cash. The supply of all kinds is small, especially No. 1 American pig, and prices are quite firm. We quote Scotch pig at \$60 and \$61 per ton; American No. 1 ditto at \$68 to

\$60; English refined bars at \$140 to \$145; Swedish bars at \$161.50 and \$162.50; Russian sheet at 25 c. and 30 c. English sheet is scarce and nominal.

Although confined comparatively to a limited number of mines, business in the MINING SHARE MARKET this week has been more active and buoyant, and the settlement of the fortnightly account on Tuesday will be heavier than expected. The Bank has again reduced the rate of discount, which now stands at 7 per cent., and the market easy; so that business will, most likely, continue to improve. The largest amount of business has been in East Grenville shares, which, as we anticipated last week, have fluctuated almost every hour. On Monday they were firm at 4½ to 4½, firmer; Thursday, 4½ to 4½, firm; Friday, opened 4½ to 4½, rather sellers, then rose to 4½, and leave off 4½ to 4½. As the mine is creating some attention, we give the following from a special report of the mine made this week by Capt. Pascoe, of South Frances:—Watson's engine-shaft is down 8 fms. below the 65. The lode at the bottom of the shaft is from 15 to 18 in. wide, composed of chlorite, quartz, and flookan, with occasional spots of yellow copper ore; sinking by nine men, at a cost of 35l. per fm.; this will be down to the 75 in about a month. The 65 has been driven east 32 fms., mostly in tin ground, and the first 23 fms. produced some low quality tinstuff, and occasional stones of copper ore, worth 8l. per fm.; in the next 4 or 5 fms. the lode was worth 15l. per fm., but in the present end it is 15 in. wide, yielding a little tin, but not of much value. The 65 west is driven 18 fms. west, in the first 15 fms. of which the lode was unproductive; beyond this point the lode began to improve, and the last 2 fms. have produced 12 tons of fair quality copper ore; the lode at present in bottom of the level is 4 ft. wide, and in the back 2½ ft., composed of yellow, black, and grey copper ore, strongly mixed with mundie and slate, producing 6 tons per fm., or in value 40l. per fathom. Capt. Pascoe considers this will ultimately be a copper lode, and that it is like the South Frances lode. It is, he says, "a very strong and well-defined lode, and a splendid course of ore; and, from present appearances, likely to continue." And as the 65 end west, where the improvement has taken place, is, as he says, about 50 fms. from the boundary of Wheal Grenville, the question arises, has the same lode ever been seen in Grenville? Cargol shares have been very flat, and freely offered, at 30 to 32, and it is uncertain whether any dividend will be declared at the meeting. Carn Camborne, 25s. 6d. to 27s. 6d.; Clifford Amalgamated, 33l. to 34l.; East Basset, 64 to 66; East Carn Brea, 63 to 7. East Lovell shares have been flatter, but leave off at 20 to 21. East Rosewarne, 3 to 3½. Great Wheal Busy, 3½ to 4, and a heavy business done; the 140 east is worth 10l. per fm., and expected to improve in 2 or 3 fms. driving, as there was a fine course of ore above in the 130. The 140 west is worth 20l. per fm., the rise is worth 20l. per fm.; the winze, east of Offord's, is worth 50l. per fm. Great Laxey, 14 to 15; Great Wheal Vor, 33 to 34; New Seton, 80 to 85; New Rosewarne, 11 to 12, and a heavy business done; Hallen-beg, 3½ to 4; Pendean, 4½ to 5; Providence Mines, 39 to 40; South Caradon Wheal Hooper, 4s. to 6s. Sithney Carnmeal, 6½ to 7; at the meeting the accounts showed a balance against the mine of 1937l. 15s. 4d., and a call of 1l. per share was made. The mine is looking well. The lode in the 95 is worth 120l. per fm., and in the shaft a course of ore is shortly expected. The agents are in hopes of realising rich discoveries of tin by a little deeper development. Nangiles, 29 to 31; at the meeting a call of 30s. per share was made; balance against the mine, 1845l. 4s. 7d. The lode in the shaft is reported worth 30l. per fm. for length of shaft, 16 feet. The balance against the mine was heavy, owing to the agents having to fix plunger-lift, &c., which took five weeks, and prevented them from breaking any copper at the engine-shaft.

South Frances, 42 to 44; St. Ives's Consols, 25 to 27½; Stray Park, 29 to 31; West Frances, 30 to 32; West Seton, 180 to 185; Wheal Basset, 90 to 95; Wheal Crebor shares have not been so firm, at 43s. to 46s.; Wheal Ludcott, 30s. to 40s.; Wheal Mary Ann, 14 to 15; Wheal Seton, 22½ to 22¾; Wheal Trelawny, 20 to 21. Wheal Kitty (St. Agnes), the ends are valued in the aggregate at 95l. to 100l. per fathom; the 34 west lode is worth 15l. to 20l. per fathom. Wheal Harriett, 30s. to 32s. 6d.; at the meeting on Wednesday the balance in favour of the mine was 839l. 4s. 6d.; the ends in the mine are generally unproductive. Great North Downs, 5½ to 5½; the lode at Rule's shaft, on Pendarves' lode, is worth 2 tons of ore per fathom; River shaft, on Vivian's lode, from 2 to 3 tons per fathom. Penhalls have improved, but we do not hear of any transactions in shares; the Pink lode has been cut in the engine-shaft, and is worth 25l. per fathom., and the agents daily expect to cut Jeffery's lode, when there will be three lodes to drive on, with 80 fms. of backs. Wheal Grenvilles have been moderately active, and kept firm, especially after the meeting, till Friday morning, when it was circulated on the market that the lode had been cut poor in the 120 fm. level, and upon this shares have been knocked down from 9½ buyers to 8½; at the meeting the accounts showed a balance of liabilities over assets of 1149l. 19s. 5d., and it was agreed to make a call of 5s. per share (1500l.), though 4s. would have been more than enough to clear off the balance. The tin sold during the past quarter from sixteen heads of stamps, working half time only, realised 1379l. 6s. 6d.; copper, 344l. 13s. 11d. = 1724l. 6s. 8d.; the costs have been considerably increased by the erection of steam-stamps, the engine for which was put to work yesterday; and 16 heads of stamps will at once go to work full time, and very shortly 32 heads, which will greatly increase the returns, and enable it to be fully expected, a dividend to be declared in November. The report is good. The agent values the 110 at 15l. per fathom; and what he considers will be the most productive part of the lode is still standing to the north, and driving to cut it. In the 120, the agent writes this morning (Friday) that he has cut into the lode 18 inches, and bored 16, without any signs of a wall (showing that it must be over 3 feet wide); and the character, he says, so far is precisely the same as it was in the upper levels. West Chiverton, 70 to 75; the 80 west, on Williams' lode, is worth 80l. per fm.; the 80 east, 107l. per fm.; the rise in the 70, west of Hawkes', 25l. per fm.; Valpy's lode, in the 80, 70l. per fm.; the 80 east, 12l. per fathom; No. 3 winze, below the 70, 60l. per fathom; No. 2, 45l. per fathom, both in advance of the 80 east; stripping down the lode in the 80, on Williams' and Valpy's lodes, each worth 120l. per fm. Wheal Chiverton, 11 to 11½; the lift will be dropped below the 40 to-day, and every progress will be made in draining the mine. Wentworth, 16 to 17; Mineral Bottom, 6 to 7; West Metal, 3½ to 4½; New Crow Hill, 30s. to 35s.

On the Stock Exchange a moderate amount of business has been transacted in Mining Shares during the week. The following quotations were officially recorded in British Mining Shares:—Clifford Amalgamated, 34½; East Carn Brea, 63; Wheal Seton, 22½; Clifford, 34½; Great Wheal Vor, 33½; South Wales Frances, 42; Wheal Mary Ann, 14½. In Colonial Mining Shares the prices were:—Yudanmutana of South Australia, 3, 3½, 3; Cape Copper, 12½; Worthing, 7½. In Foreign Mining Shares the prices were:—St. John del Rey, 45½; General, 21, 21½; Montes Aurores Brazilian Gold, 2½, 2½; Santa Barbara Gold, 1; United Mexican, 6½, 6½, 5½; Vancouver Coal, 6; Alamillos, 1; Cobre Copper, 34½.

**IRISH MINE SHARE MARKET.**—We have again had a very quiet week on our Stock Exchange, and our prices of English Funds did not even correspond with the advance in England, which amount to nearly 1 per cent. as compared with Monday's price; the tone, however, was and continues firm, dealings being exclusively for cash. The general share market was quiet, but steady. In railways little or nothing was done, or is doing. Banks are in better request. In steam navigation shares, the only feature worth noticing is a heavy fall of 1½ per cent. in the City of Dublin stock. Mines were rather better supported than most other securities, although, for want of sellers, there have been no transactions in Connors or Carrs-forths. For General Mining Company for Ireland shares 3l. 15s. was offered, but holders stood out firmly for 4l. For Wicklow Copper shares there were several offers, but none came up to the price under which holders will not sell. Mining Company of Ireland shares (7½ paid) made a further advance on last week's quotation of 23l., and have finally been dealt in at 23l. 10s. for cash and account.

The Pennant Slate Company, with a capital of 50,000l., in shares of 5l. each, has been formed for working the quarry of the same name, about six miles from Port Madoe, in Carnarvon. There is abundant and never-failing supply of water-power, and unusual facilities for working. The property comprises about 170 acres, held on lease at low royalties, with a minimum rent of 500l. per year, and the purchase money is fixed at 20,000l., of which 4000l. is to be paid in cash, and the remainder in paid-up shares of the company. The quarry has been very favourably reported upon by Mr. John Francis, the manager of Col. Pennant's quarries. The vein,



which is nearly 150 yards in thickness, extends through the property for a length of about half-a-mile, and there is little top or waste rock to remove. It is considered that the quality of the slate is not to be surpassed by any in North Wales, and the colour—a greyish blue—commands a ready sale in the market at the highest price. The prospectus will be found in another column.

The Smelting, Reduction, Lime, and Coal Company has issued 20,000 fifteen per cent. preference shares of 1s. each. The Broncoed Colliery, for the working of which this preference capital is issued, has been favourably reported upon by Mr. Henry Beckett, of Wolverhampton. He states that with vigorous management the colliery ought to produce 2000 sale tons of coal per week, or, say, 100,000 tons per annum. Fine samples of Cannel coal realise 25s. per ton nett, but such quality is exceptional; and, taking all things into consideration, he does not consider he would be justified in raising his former assumed prices as the basis of safe calculation—14s. per ton on smooth and curly Cannel, and 6s. 8d. per ton on ordinary coal. It is not improbable that in fully developing the several estates oil-producing shales may be discovered, as at Leeswood Green and other localities. Argillaceous ironstones and fire-clays will also, unquestionably, occur, but as he has at present no reliable data on these points, prudence induces him to simply allude to such minerals as may become available at a future time, and lead to the erection of blast-furnaces, and other economic modes of turning the estates to the highest advantage. Mr. Beckett estimates the total present value of the company's interest at 250,000l. 8s. 11d., so that there would appear to be ample security for the 20,000l. proposed to be raised.

The Wilnecote Collieries and Blue or Iron Brick Company, with a capital of 100,000l., in shares of 10l. each, has been formed for the purchase of the freehold of the Wilnecote estate at Wilnecote, Warwickshire, and the manufacture of blue bricks from the abundant deposit of ferruginous clay existing on the property. The estate consists of about 156 acres of land, and the clay, covering the whole area of the estate to the depth of nearly 60 yards, is practically inexhaustible. There are two collieries on the estate, and abundance of fire-clay, and a large quantity of ironstone. Wilnecote Hall, the Queen's Head public house, and some arable and pasture land, are let, and producing a rental of 800l. per annum. One of the collieries—the Watling Street—is in lease, and in full work, and the other is in hand, with the necessary appliances of shafts and steam power erected. It is calculated that a paid-up capital of 50,000l. will (taking into consideration only the manufacture of bricks, tiles, and clay goods, and the rental from the portions of the estate not required by the company) produce 17,200l. net annual profit. The directors will be paid by a percentage on net profits, and there is no promotion money or free shares. The estate and manufactures have been favourably reported on by Mr. Geo. Myers (Myers and Sons, Lambeth); by Mr. J. Bagnall, brick-maker; and by Mr. R. C. Sinclair, of the firm of Bates and Sinclair, engineers and architects, of Birmingham.

The Reading Ironworks have been formed, with a capital of 200,000l., in shares of 20l. each, for purchasing and carrying on the business of the well-known firm of Barrett, Exall, and Andrews, of Reading. The works have enjoyed a high reputation for nearly half a century. It is mentioned that a provisional agreement, equitable and satisfactory, has been entered into with the vendors, which secures to the company, at a valuation, the freehold known as the Katesgrove Ironworks, Reading, together with other valuable freeholds and leaseholds—the good-will, stock in trade, plant, machinery, patent rights, &c. The connections and agencies established by the retiring firm secure the company a prosperous future. Messrs. W. Exall and C. J. Andrews, who have taken respectively the engineering and commercial management in the business, will, as soon as the transfer is complete, take seats at the board, and bring to bear their extensive and valuable experience. The directors have every reason to hope that the services of the present executive staff, which has so long and faithfully served the firm, may be secured to their successors.

The progress during the past week of other undertakings recently introduced, the publication of whose prospectuses has been already announced, is thus reported:—The directors of the Scottish and Universal Finance Bank announce the closing of the share list on Tuesday next. The applications for shares have considerably exceeded the number to allot, and the shares are now quoted 2 to 3 prem. An idea of the very ready way in which shares in new undertakings are subscribed for may be formed from the fact that even for a company of comparatively speaking, so little attraction as the Ceylon Coffee Estates Company, 15,567 applications were received for the 6000 shares to be issued. The letters of allotment of the Tavistock Ironworks and Steel Ordnance Company (late Gill and Co.) were sent out on Tuesday. The share list of the Tyne Shipbuilding Company will be closed on Tuesday next; the shares are at present quoted 1 to 2 prem., whilst the shares of the mother company, the National Financial, only command  $\frac{1}{2}$  to  $\frac{3}{4}$  dis. Gellivara are still  $\frac{1}{2}$  to 1 dis.; Millwall Ironworks,  $\frac{1}{2}$  to  $\frac{3}{4}$  prem.; Shireoaks Colliery, 1 to 2 prem.; and General Contract,  $\frac{1}{2}$  to 2 prem.

At Truro Ticketing, on Thursday, 3912 tons of ore were sold, realising 20,806l. 8s. 6d. The particulars of the sale were:—Average standard, 121l. 9s.; average produce, 6s.; average price per ton, 5l. 6s. 6d.; quantity of fine copper, 259 tons 17 cwt. The following are the particulars:—

Date.	Tons.	Standard.	Produce.	Price per ton.	Ore cop.
May 5.....	3212	119 16 0	6 5	5 9 0	27 14 0
May 12.....	2580	122 11 0	6 5	5 9 0	79 7 0
May 19.....	5237	128 12 0	6 5	5 9 0	79 11 0
May 26.....	3912	121 9 0	6 5	5 9 0	77 19 0

Compared with last week's sale and with the corresponding sale of last month the standard is about stationary.

At the Swansea Ticketing, on Tuesday, 1997 tons of copper ore were sold, realising 18,251l. 2s. The particulars of the sale were:—Average standard, 103l. 10s.; average produce, 11l.; average price per ton, 9l. 3s.; quantity of fine copper, 219 tons 13 cwt. The following are the particulars of the sales during the past month:—

Date.	Tons.	Standard.	Produce.	Price per ton.	Ore cop.
May 3.....	2197	98 19 0	15 13-16	13 8 0	84 18 0
May 10.....	1916	103 10 0	11	9 3 0	83 2 0

Compared with the last sale, the decline has been in the standard about 1l. 10s., and in the price per ton of ore about 3s. 4d. Compared with the corresponding sale of last month, the decline has been in the standard 3l., and in the price per ton of ore about 6s. 6d. Of the ore sold on Tuesday, 1745 tons were British ores, which gave an average produce of 8s., and sold at an average standard of 107l. 19s. 6d.—7l. 2s. 6d. per ton of ore; the remaining 252 tons were foreign ores, which gave an average produce of 27, and sold at an average standard of 93l. 10s. 6d.—23l. 1s. per ton of ore. On June 14 there will be offered for sale 2433 tons, from Cobbe, Berehaven, Knockmahon, Connorree, Moonta, Western Australia, Cwmbran, Dyfnogwm, Tigrany, Gourock, Cape, and elsewhere.

The following dividends have been declared during May:—

Mines.	Per share.	Amount.
Devon Great Consols	12 0 0	12,288 0 0
West Bassett	0 5 0	1,500 0 0
Providence	1 0 0	1,120 0 0
Frank Mills	0 4 0	1,000 0 0
East Wheel Lovell	0 10 0	950 0 0
Wheel Treilawny	0 12 6	650 0 0
Botalack	3 0 0	600 0 0
St. Ives Consols	0 10 0	470 0 0
Cargill	0 10 0	450 0 0
Wheel Owles	5 0 0	400 0 0
West Darnell	1 0 0	250 0 0
Wheel Jane (Kee)	0 10 0	250 0 0
United Mexican	0 5 0	10,793 10 0
Total		£48,744 10 0

At Wheel Owles meeting, on May 20, the accounts for the quarter ending March showed a credit balance of 2088l. 18s. 4d. A dividend of 400l. (5l. per share) was declared, and 1688l. 18s. 4d. carried over. The profit on the quarter's working was 470l. 18s. 4d. Work performed during the quarter:—151 fms. 5 ft. driven in levels; 40 fms. 2 ft. 11 in. sunk in shafts and winzes; 20 pacesetting on tat for tin; 30 paces on tribute.

At Providence Mine meeting, on Wednesday, the accounts for the three months ending April showed a credit balance of 1403l. 9s. 3d. A dividend of 1120l. (12l. per share) was declared, and 288l. 9s. 3d. carried to credit of next account. The profit on the three months' working was 704l. 5s. 4d., and 10 tons of ore unsold were added to the stock.

At Wheel Buller meeting, on May 17, the accounts showed a debit balance of 15l. 2s. 4d. In consequence of some additional work, and the requirement of a new boiler, a call of 2l. per share was made. Capt. Davey, Inch, and Dyer consider the mine is looking better.

At Wheel Sthney and Carmichael United meeting, on May 19, the accounts for the three months ending March 15 showed a debit balance of 1935l. 15s. 4d. A call of 20s. per share was made. Capt. Chappell and Martin reported that from the indications of the lode in the bottom of the flat-roofed shaft and 90 west, they are in expect-

ation of realising rich discoveries of tin by a little deeper development. They have caused in the accounts the steam-winding and stamping-engine and merchants' bills to April 1, and also the last labour pay.

At Wheel Tremayne meeting, on Monday, the accounts for the three months ending March showed a credit balance of 517l. 3s. 1d. Capt. R. and J. Williams reported upon the various points of operation. They have about the usual number of hands employed—86 men on tatwork and 20 men on tribute. From present appearances they hope to raise from 36 to 40 tons for the next three months.

At Wheel Par meeting, on May 19, the accounts for the three months ending March showed a debit balance of 401l. 16s. 4d. A call of 5s. per share was made. It was resolved that the offer of Mr. William West of a 12-head stamps complete, excepting the bolts of the woodwork, and subject to the approval of the agents, to be delivered on the mine at the price of 90l., be accepted, and that the same be erected immediately. Capt. Tregay and Beard reported that the lodes increase in depth, and they have every confidence in still increasing productiveness.

At Gonamena Mine meeting, on Tuesday, the accounts for January and February showed a credit balance of 850l. 0s. 9d. Capt. R. Pascoe reported that, on the whole, their prospects were very encouraging. The sale of ore on Thursday was 72 tons, instead of 60, as was calculated at the last meeting.

At the New Wheel Martha meeting, on Monday, the following resolution was unanimously confirmed:—"That the meeting confirm a certain indenture, dated Dec. 28, 1859, and made between the Rev. John Barker Birckett, clerk, William Thomas Linford, Esq., James Wright, civil engineer, William Graham, gentleman, and George Seaby, mining agent (the liquidators appointed under the voluntary winding-up of the Great Wheel Martha Mining Company, Limited), of the one part, and the New Wheel Martha Mining Company, Limited, of the other part, whereby the lease of the Wheel Martha Mine, together with the machinery, engines, ore, and effects were sold and assigned to the last-mentioned company, in consideration of 5690l. (5000l., part thereof, being paid in shares of the said company); and empower the directors to pay out of the funds of the said company any other debts, not exceeding 200l., which may be found to be owing by the said Great Wheel Martha Mining Company, Limited."

At the Great Darren Silver-Lead Mine meeting, on May 21 (Dr. Nolan in the chair), the accounts showed a debit balance of 2377l., to liquidate which a call of 12l. per share was made. It was agreed that a special general meeting should be convened for the purpose of passing the necessary resolutions for placing the company under the Companies Act, 1862. Details in another column.

At the Quebrada Land, Railway, and Mining Company meeting, on Monday, the special resolution passed at the meeting on May 2 was confirmed. The third report of the resident engineer, dated April 1, has been received by the directors. Owing to the Easter holidays only 1½ mile additional of the line had been completed, and 20 chains more cleared. They have found that in that country sleepers cut from the growing timber warp so much that it is necessary to lay round timber for cross sleepers, cutting out squares to hold the rails; this last portion of the line has been laid with round sleepers, the majority having a thickness of about 6 to 7 in., although some are much smaller. Mr. Liddell arrived at Tucacas on March 25, and is now preparing a plan of Tucacas and part of Isla Brava. The resident engineer has begun his preparations for taking formal possession of the estate. Mr. Wolff has been allowed to continue his mining operations; to avoid the possibility of denunciation, he pays  $\frac{1}{4}$  per cent. per ton royalty. There are about 700 tons of ruby ore now ready at the mines, containing from 25 to 30 per cent. of copper, and if allowed to continue he (Mr. Wolff) expects to get about 500 tons more before the end of the year; he will probably offer the company 12l. per ton for 30 per cent., deducting 10s. per ton for every per cent. less to 26, and 18s. per ton for every per cent. below 26. This will be a favourable arrangement both for himself and for the company. There are about 1000 tons of ore at the mines, of about 10 per cent. of copper.

COAL MARKET.—On Monday, the arrival of 75 fresh ships, of which a large proportion contained household coal, caused a heavy market, and to effect sales a reduction of 6d. per ton in prices had to be submitted to. In Hartley's and manufacturers' coals there was no change. Best house coal, 16s. to 17s.; seconds, 14s. 6d. to 15s. 6d.; Hartley's, 14s. 3d. to 15s. 3d.; manufacturers', 13s. to 15s. per ton.—On Wednesday, being the Derby day, the market was, as usual, closed.—On Friday, since Monday the arrivals numbered 126 ships. This large supply caused a further reduction of 6d. per ton in house coal, at which a large business was done; Hartley's and manufacturers' 3d. lower. Hetton Wallsend, 16s. 6d.; South Hetton Wallsend, 16s. 6d.; Lambton Wallsend, 16s.; Brandy's Wallsend, 15s.; Eden Main, 14s. 6d.; Harton Wallsend, 14s.; Gosforth Wallsend, 14s.; Riddell's Wallsend, 14s.; Framwellgate Wallsend, 13s. 9d.; Harting's Hartley, 15s. 3d.; Tanfield Moor, 14s.; 30 cargoes sold; 30 ships at sea.

EXPORTS OF COAL.—By the Monthly Circular of Messrs. Laird, Liverpool, we learn that the quantities of coal exported during April was 705,098 tons, against 729,279 tons in the corresponding month of 1863, showing a decrease of 24,181 tons. The particulars are:—From the Northern ports, 372,814 tons; Yorkshire, 17,874 tons; Liverpool, 45,352 tons; Severn ports, 220,501 tons; and Scotch, 48,557 tons. The increase was:—Severn ports, 17,675 tons; Scotch ports, 302 tons. The decrease was:—Northern ports, 28,815 tons; Yorkshire, 8853 tons; Liverpool, 4490 tons. Total exports from January to April inclusive, 2,477,443 tons: same period last year, 2,264,711 tons—increase this year, 212,732 tons.

FURTHER IMPORTATIONS OF TIN FROM SPAIN.—Messrs. Fox, Sons, and Co., of Plymouth, have recently received 10 tons of well-dressed black tin from the Medina United Mines, in the province of Orense, Galicia. These mines are steadily improving, the yield of tin continues to increase, and it is expected that they will eventually become a source of great profit to the adventurers. The tin is found in veins of quartz, near the junction of the granite with the mica schist; 40 tons of black tin have already been sent to England, which makes a produce of 65 per cent. of metal, of a superior quality.

TAMPING WITH IRON RODS.—Another instance of the extreme danger of tamping with iron rods was brought forward at an inquest held a few days since at Ding Dong Mine. Michael Trembath, aged 16, was killed almost instantaneously through the explosion of a hole whilst tamping. Capt. Francis Bennetts stated that the practice in Ding Dong is to compress the powder with a wooden rod or charging stick, and to tamp with an iron rod. There was an animated discussion of the question how to avoid the recurrence of similar accidents, and what regulations could be enforced in mines as to precautionary measures. The use and merits of the copper-tipped lancewood and oak tamping-bars were suggested, but practical men gave it as their opinion that while the plain iron bar does its work better than the other, the miner will continue to prefer celerity of work and its attendant danger, to slower operations with safety. The question thus turning entirely upon the speed of work, there would appear to be a good field for the endeavours of the ingenious inventor to provide a safe rod, which shall be free from the objection of slow work. It is this studied neglect of ordinary precaution that will give strength to the arguments of those desirous of introducing the system of governmental inspection of Cornish mines.

BLASTING WITH GUN-COTTON AT DOLCOATH MINE.—Experiments were made, in the last and present week, at Dolcoath Mine, in accordance with the wish of the Government Commission on Mines, to test the suitability of gun-cotton for blasting purposes, instead of gunpowder. The experiments are understood to have been satisfactory, and there is no doubt of the explosive power of the new material being equal to gunpowder for any kind of rock; and there is also far less smoke produced by the blasting of the hole, but whether it is less injurious to the health of the miners remains to be tested by chemical examinations. The result, however, of blasting by gun-cotton at other mines, as well as those experiments whose full results are not yet published, show that the statements of the Austrian chemists and employers of that Government are not yet realised in Cornish mines. Less than half the bulk of gun-cotton, it has been stated, will produce 40 per cent. more effect in blasting rocks than common gunpowder. If so, the Austrian powder was far inferior to our own; three-quarters of the bulk of gun-cotton will probably produce in our mines about the same effect as gunpowder. The expense of the material is not yet, so far as we know, published, but there is little doubt of its greatly exceeding the present price of gunpowder.—West Briton.

NEW MODE OF SMELTING LEAD ORES.—Prof. A. H. Everett, of New York, has just brought to perfection a very neat improvement in the reduction of lead from galena, by which a considerable saving of expense is effected. One of the common methods of reducing this ore is to mix it with iron in a reverberatory furnace; the sulphur, at a high temperature, having a stronger affinity for iron than for lead, leaves the lead and combines with the iron, forming a sulphide of iron, while the lead is drawn off as a separate metal. At the present time, however, the high price of even iron scrap in New York (about \$40 per ton), induced Prof. Everett to look about for some substitute, and it occurred to him to try the waste tin scraps of the tin-plate workers; in these he has the very best of wrought-iron, and in a form exposing the largest surface to the action of the sulphur. The tin scrap, being a waste product, can be had at a nominal cost. After a series of experiments the practical difficulties of the new process were overcome, and now several tons of ore are being smelted by it daily at Prof. Everett's furnace, at the foot of Horatio-street, in New York. The operation is extremely simple. Five hundred pounds of the sulphide of lead are mixed with 125 lbs. of tin scraps in a reverberatory furnace, and kept at an intense heat, the charge being stirred every 15 minutes. In from one to two hours the whole mass becomes fluid, and the reduction is complete. It is found best to introduce one-half the charge of tin scraps, and allow it to become red-hot, when the ore and the remainder of the scraps are added. Besides the cheaper and more rapid production of the ore by this process, the tin of the scraps is mixed with the lead, increasing the yield, and for many purposes improving the quality. Prof. Everett has secured a patent for this valuable invention.—Mechanics Magazine.

#### BLACK TIN.

Mines.	Tons.	Price per ton.	Amount.	Purchasers.
Great Wh. Busy	21 15 0	24	£1156 1 8	
Wheel Par	2 11 3	9	65 12 6	170 1 4—Redruth Co.
West Beani	9 12 2	23	63 17 6	615 9 0—Harvey & Co.
North Bassett	4 1 2	26	61 5 0	290 2 4—Harvey & Co.
Penhall	6 1 2	5	304 8 0	
St. Just United	25 1 1	10	1594 10 0	

Mines.	Tons.	Price per ton.	Purchasers.
Broncoed	30	£15 2 0	A. Eytan.
Bryngwyn	10	14 7 6	A. Eytan.
Mount Pleasant	13 13 0		Walker, Parker, & Co.
Hendre Ucha	15 0 0		ditto
Bryngwyn	15 0 0		ditto
Pant-y-Mwyn	12 0 0		Newton, Keates, & Co.
East Pant Da	8 0 0		ditto
Summer Hill	14 18 6		ditto
Dyfnogwm	3 0 0		Bryngwyn Co.
Llanerchraur	14 7 6		Walker, Parker, & Co.
	15 3 6		ditto

Mine.	Tons.	Price per ton.	Purchasers.
Great Laxey	300	£3 7 6	W. Kenrick.
Great Laxey	300	3 10 0	Vivian & Sons.

Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce.	Price.
Berehaven	104	11 5	9 0 0	Gwalla ore	58	32 1/4	£28 12 0
ditto	96	11	9 0 0	ditto	37	40 1/2	33 15 0
ditto	81	11 1/2	8 15 0	ditto	16	42 1/2	35 15 0
ditto	119	11 1/2	9 1 0	Cape Copper	88	25 1/2	21 5 0
ditto	110	10 1/2	9 0 0	Regulus	5	21 1/2	17 0 0
ditto	60	11	9 0 0	Burnt Ore	111	3 1/2	2 2 6
ditto	125	10 1/2	8 15 6	Connorree Ore	77	3 1/2	2 1 6
Knockmahon	126	5 1/2	4 3 0	ditto	69	3 1/2	2 3 0
ditto	44	9 1/2	8 8 6	Ballycummisk	14	17 1/2	14 11 0
ditto	53	10 1/2	9 2 6	ditto	20	12 1/2	10 6 0
ditto	55	12 1/2	10 8 0	ditto	43	6	4 13 0
ditto	70	10 1/2	8 10 6	Burnt ore	135	3 1/2	2 0 6
ditto	59	10 1/2	9 1 6	Moonta	48	11 1/2	9 4 6
ditto	83	11 1/2	9 14 6	Norwegian ore	7	29 1/2	24 15 0
ditto	56	9 1/2	8 2 0				

Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce.	Price.
Berehaven	695	£5290 17 6		Connorree ore	145	£308 2 6	
Knockmahon	578	4541 2 0		Ballycummisk	77	609 13 0	
Gwalla ore	111	5553 11 0		Burnt ore	135	273 7 6	
Cape Copper	88	1827 10 0		Moonta	48	412 16 0	
Regulus	5	85 0 0		Norwegian ore	7	173 5 0	
Burnt ore	111	235 17 6					

COMPANIES BY WHOM THE ORES WERE PURCHASED.	Tons.	Amount.
Copper Miners Company	218 1/4	£1529 19 0
Freeman and Co.	220 1/2	2506 8 6
Grenfell and Sons	76	1139 0 0
Stms, Williams, and Co.	175	2183 17 6
Vivian and Sons	230	3738 0 0
Williams, Foster, and Co.	604 1/2	4281 2 0
Bankart and Sons	126	522 18 0
Charles Lambert	111 1/2	928 12 0
Pencalld Copper Co.	53	483 12 6
Mona Copper Co.	182	1317 12 0
Total	1997	£18,251 2 0

Copper ores for sale at Swansea, June 14.—Cape 740; Berehaven 550; Knockmahon 472; Connorree 181; Moonta 120; Western Australia 110; Spanish ore 57; Burnt ore 45; British Regulus 37; Californian 29; New Cornwall 22; Cronbane 24; Dyfnogwm 14; Tigrany 11; Gourock 11; Cape ore 3; Australian ore 3; Ousebane 2; Tigrany 2.—Total, 2433 tons.

British.	Produce.	Price.	Standard.
Produce	8 1/2	£7 2 6	£107 10 6
Foreign	27	23 1 0	93 10 6
Total	11	£9 3 0	£103 10 0
Total—British, 1745; Foreign, 252=1997 tons (21 cwt.)			

British.	Produce.	Price.	Standard.
Produce	8 1/2	£7 8 0	£107 11 0
Foreign	19	16 4 0	97 1 0
Sale	15 13-16	£13 8 6	£98 19 6
Totals—British, 680; Foreign, 1476=2156 tons (21 cwt.)			

#### COPPER ORES.

Sampled May 11, and sold at the Royal Hotel, Truro, May 26.

Mines.	Tons.	Price.	Mines.	Tons.	Price.
South Caradon	91	£13 11 6	Wheel Rose	52	£7 0 6
ditto	74	6 0 0	ditto	42	4 18 6
ditto	69	15 16 0	ditto	41	11 19 6
ditto	59	8 10 6	North Trekerby	65	4 19 6
ditto	55	12 4 0	ditto	62	3 16 6
ditto	54	7 14 0	ditto	58	5 6 0
ditto	36	5 15 6	ditto	54	3 5 6
ditto	33	6 5 6	ditto	53	5 17 6
Great Wheel Busy	81	2 4 0	ditto	52	4 10 6
ditto	73	3 8 0	West Caradon	68	5 12 6
ditto	67	2 3 0	ditto	56	8 5 6
ditto	62	3 1 6	ditto	52	9 4 6
ditto	58	3 2 0	ditto	52	9 16 6
ditto	42	1 8 6	ditto	48	5 5 6
ditto	38	3 0 6	ditto	36	4 8 0
ditto	30	1 19 6	ditto	19	1 8 6
ditto	18	4 1 0	Fowey Consols	76	7 4 6
ditto	2	40 0 0	ditto	74	6 10 6
Clifford Amalgamated	70	2 0 0	ditto	70	5 6 0
ditto	64	4 12 0	Wheel Polmar	62	5 13 6
ditto	63	4 16 6	ditto	56	5 8 6
ditto	58	1 6 6	ditto	54	8 7 0
ditto	53	1 9 6	Craddock Moor	45	5 6 6
ditto	50	1 7 6	ditto	47	5 12 6
ditto	47	2 6 6	ditto	45	0 12 6
ditto	40	6 8 6	North Downs	43	5 16 0
ditto	17	3 16 0	ditto	49	4 14 8
Phoenix Mines	90	3 7 0	ditto	40	5 12 6
ditto	89	3 5 6	Boscawen	45	2 16 6
ditto	64	2 13 6	ditto	43	3 12 6
ditto	63	1 17 0	ditto	38	9 18 6
ditto	58	2 8 6	St. Day United	35	1 19 0
ditto	33	9 9 6	ditto	33	1 19 0
ditto	33	9 9 6	Gonamena	29	5 18 0
Wheel Rose	77	5 18 6	ditto	33	5 12 6
ditto	75	6 1 6	South Crinnis	31	7 1 0
ditto	64	6 11 6	Pedn-an-drea	23	6 6 0
ditto	59	4 9 6	Wheel Kitty	18	8 0 0



## THE PENNANT SLATE COMPANY (LIMITED).

To be registered under the Companies Act, 1862, which limits the liability of each shareholder to the amount of his shares.  
Capital £20,000, in 10,000 shares of £2 each.  
Deposit on application, 10s. per share; and £1 on allotment.  
No call to exceed £1 per share, and an interval of not less than two months between each call.

**DIRECTORS.**  
THOMAS CAMPBELL EYTON, Esq., Elyon, Shropshire.  
HENRY KEATE, Esq., Shrewsbury.  
JOHN BROUGHALL, Esq., Shrewsbury.  
WILLIAM OVEY, Esq., Manchester.  
JOHN TREASURE, Esq., Shrewsbury and Newport, Salop.  
WILLIAM EDWARD BADDELEY, Esq., M.D., Newport, Salop.  
DAVID EDWARDS, Esq., Newport, Salop.  
URIAS BROMLEY, Esq., Manchester and Rhyl.

**BANKERS.**  
Messrs. Hodge, Elyon, and Co., Shrewsbury.  
The National Provincial Bank of England, Portmadoc.  
The Union Bank of London, Temple Bar.  
**SOLICITOR.**—R. D. Newell, Esq., Wellington, Salop.  
**SECRETARY.**—H. H. TREASURE, Esq., Chester-street, Shrewsbury.  
**OFFICES.**—CHESTER STREET, SHREWSBURY.

### PROSPECTUS.

This company is established for working the Pennant Slate Quarry, Carnarvonshire, which is situated about six miles from Portmadoc.

The quarry is most conveniently situated for economical working, being on a declivity of the mountain, which renders the expense of machinery for raising the slate unnecessary, and gives ample fall and space for the deposit of waste. There is an abundant and never-failing supply of water-power for working saw mills, &c.

The property, which comprises about 170 acres, is held under a lease for 42 years, at low royalties, with a minimum rent of £50 a year.

The vein, which is nearly 150 yards in thickness, extends through the property for a length of about half a mile. It crops out on the surface, consequently there is very little top or waste rock to remove.

The quarry is partially opened, and the quality of the slate is not to be surpassed by any in North Wales. The colour, a greyish blue, commands a ready sale in the market at the highest price, and the extreme lightness of the slates renders them peculiarly advantageous for exportation.

The quarry is situated about three miles from a tramway leading to Portmadoc, which is the great place of export for slate. A railway is projected through the property, which will open up through communication to the various ports on the coast, and also to the inland districts.

The slate has been subject to nearly every known test. It stands heat without being in the slightest degree damaged.

Three quarries are now being worked in the same vein in the immediate neighbourhood, from each of which slates of the finest quality are produced.

The demand for slates of all kinds has lately increased to such an extent that the old quarries in the Principality cannot execute present orders in less than two years.

An arrangement has been entered into with the present lessees for a transfer of their interest in the quarry, with 170 acres of land, in consideration of £4000 to be paid in cash, and 3000 fully paid-up shares, which includes the expenses of opening up to the date of transfer, and also the plant, &c. They are so satisfied as to the ultimate success of the undertaking that they have agreed that no dividend shall be paid upon those shares until the other shareholders shall have received a dividend of 10 per cent.

Looking at the quality of the slates produced, and the unusual facilities which exist for working the quarry, there can be no doubt that a dividend equal to that paid by the best quarries in Wales will in a short time be secured. In the meantime it is calculated that the slates and slabs which can be made during the opening of the quarry will yield a good dividend to the shareholders.

Specimens of the slates may be seen at the office of the company, Chester-street, Shrewsbury.

Prospectuses, forms of applications for shares, and copies of reports, may be obtained from the secretary or solicitor, to whom applications for shares may be made; but no application will be entertained unless accompanied by a banker's receipt for 10s. per share on the number of shares applied for.

If more shares are applied for than are allotted, the surplus of the deposit, on application, will be applied towards the payment of the further deposit on the shares allotted. If no allotment be made the deposits will be returned in full, but without interest.

## GREAT WHEAL METAL TIN MINING COMPANY (LIMITED).

Incorporated under the Companies Act of 1862, with Limited Liability.  
Capital £20,000, divided into 10,000 shares of £2 each.  
Deposit 10s. per share on application, and 10s. per share on allotment.  
No further call will be made for six months, as it is considered by competent authorities that from £4000 to £6000 will be sufficient to bring the property into a dividend-paying state.

**DIRECTORS.**  
Sir WILLIAM SMITH (Director of the Great Laxey Mining Co.), Carlton Club.  
CHARLES JOSEPH CARTTAR, Esq. (Clerk for Kent), Catherine House, Blackheath, S.E.  
WILLIAM A. DUNN, Esq. (Merchant, Newcastle-upon-Tyne and London), 11, Kensington Park Gardens, W.  
LOUIS LEVINSON, Esq. (Levison and Co., Merchants), Consul for Chili, 31, Threadneedle-street, E.C.  
TEMPLETON HAWKINS, Esq., 39, Woburn-place, W.C.  
W. S. SUTTON, Esq., Annan Lodge, Brighton.  
EDWARD CHARLES LEA, Esq. (Moss, Lea, and Co., Merchants), 16, Water-lane, E.C.  
JOSEPH TILSTON, Esq. (Director of the General Rolling Stock Company), Chepstow Villa, Haywards, W.  
JOHN JOHNSTONE, Esq., J.P., Friarstown House, County Leitrim, and 31, Belgrave-road, S.W.

**BANKERS.**  
London ..... The Metropolitan and Provincial Bank (Limited), 75, Cornhill, E.C.  
Cornwall ..... Messrs. Vivian, Grylls, Kendall, and Co., Helston.

**AUDITORS.**  
Sydney G. Smith, Esq., Public Accountant, 19, Coleman-street, E.C.  
T. W. Cathrall, Esq., 35A, Moorgate-street, E.C.  
**OFFICES.**—GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C.

### PROSPECTUS.

This company has been formed for the purpose of working a valuable piece of mineral property, situated in the parish of Breage, county of Cornwall, in the Great Wheal Vor and the Wheal Metal mining district.

The present rich lodes in Wheal Metal pass through the Great Wheal Metal, and the Great Wheal Vor elvan course: the latter forms a junction with the whole of the lodes in the Great Wheal Metal Mine. (See geological plan.)

The geological position of the property is everything that can be desired, being on the junction of granite and clay-slate. The intersections and concentration of lodes in the grant form a great and favourable feature, one never known to have failed to produce very great riches in Cornwall, nine-tenths of the rich mines in the county being situated in a similar position.

The main lode in Great Wheal Vor has produced upwards of £2,000,000 worth of tin, and that at a time when the ore was selling at £30 to £40 per ton, at which price profits to the extent of £3000 and £4000 per month were returned to the shareholders.

The shares in Great Wheal Vor (or Wheal Metal Company) were selling at £6 per share twelve months since, which would amount to £36,000 for the entire property. Important discoveries have since been made, and the mine is enhanced in value upwards of £200,000, the present price being £240,000; independent of which, it is giving dividends to the extent of £18,000 to £20,000 per year.

The directors have consulted some of the first mining authorities in the county of Cornwall, including the land and mineral survey for Cornwall and Devon; the mineral agents of the Rev. H. M. St. Aubyn and of J. J. Rogers, Esq., M.P.; the managers of Great Wheal Vor, Great Wheal Fortune, Great Work, Leads and St. Aubyn, West Grylls, Gariyn, and of Sitchey Carmel, &c.; the whole of whom speak in the most positive terms as to the certainty of success in this undertaking.

The directors, supported by the evidence and strong recommendation of these authorities, convinced also of the intrinsic value of the property, and the certainty of great and eminent success, have purchased the mine for the sum of £7000; £4000 to be paid in cash, and £3000 in fully paid-up shares in the company.

The leases are held for the term of 31 years, at 1-15th royalty or dues.

This company will benefit by an outlay of £18,000 to £20,000 necessarily expended by former proprietors in proving the sett and erecting buildings, &c. (now on the mine, and all of which are available to the present owners), but at a period when tin commanded only one-half its present value.

The important position of the Great Wheal Metal, and the value of the lodes which run through the sett, may be easily appreciated by a perusal of the accompanying reports, and geological plan of the district.

The undertaking to be under the immediate direction of a board of directors, to consist of not less than five or more than ten members, each of whom shall be required to qualify for office by holding at least 200 shares in the capital of the company.

It is confidently expected by the most competent authorities that the realised profit upon an outlay of £6000, which the directors have provided for, will enable the company to pay a liberal dividend to its shareholders, while opening the lodes at various points will guarantee the certainty of realising large deposits of ore, as has been the case in all other mines in the county of Cornwall where a similar junction of lodes has taken place.

The directors, fully impressed with the great value of the mine, and the profitable results which must flow from an efficient working, offer the remaining shares to the public, with a conviction that such an opportunity for the profitable investment of capital is rarely presented.

The capital of the company is £20,000, divided into 10,000 shares of £2 each, upon which 10s. per share has to be paid at the time of subscribing, 10s. on allotment, and the balance, if required, by instalments of 5s. each, at intervals of not less than three months, but no call will be made for six months after allotment.

A considerable portion of the shares has been already subscribed, and the directors will proceed to allot the same as soon as they deem the requisite number applied for.

In the event of no allotment being made the deposit will be returned in full.

The company is incorporated under the Companies Act, 1862, with limited liability, and no shareholders can, under any circumstances, be liable for more than the shares to which he subscribes.

Shareholders have the option of paying up their shares in full, upon which payments they will receive interest at the rate of £5 per cent. per annum, and the dividends will be declared upon each share in proportion to the amount paid.

Applications for shares may be made to the bankers, brokers, or secretary.

## THE CREDIT MOBILIER COMPANY OF LONDON (LIMITED).

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**BANKERS.**  
The London and Westminster Bank, Lombard, E.C.; and the Union Bank of London.  
The company discount approved mercantile and other bills, make advances on negotiable securities, and undertake financial business generally.

**ASSAYS AND ANALYSES UNDERTAKEN AT MODERATE CHARGES.** by Mr. ARTHUR EVANS, LECTURER ON CHEMISTRY, NORMAL COLLEGE, SWANSEA.—Fareels to be directed Mr. A. EVANS, 12, High-street, Swansea.

## SWANSEA COPPER ORE WHARVES,

Swansea, January 1, 1864.

GENTLEMEN.—We beg to inform you that, in consequence of the retirement of Messrs. W. and J. M. Williams from the copper ore trade, which they have carried on here for so many years past, we have resolved to enter upon that business, and for which purpose we have secured most eligible wharves, on the west side of the North Flat, where vessels drawing 20 ft. of water can get alongside at all times. These wharves are now being covered in, and, together with a steam crane now erecting, will, we expect, be completed in two or three weeks from this date.

The business we propose carrying on is that of copper ore wharfing, combined with metal and other general agencies, which will be managed by our Mr. Thomas Elford, who for 20 years has filled an important situation under Messrs. Williams, Foster, and Co., and for the last eight years has had the entire management of their large copper smelting works, and copper and metal rolling mills, in this locality, as well as the copper ore business of Messrs. W. and J. M. Williams, which we trust will be a sufficient guarantee to our friends that any business they may entrust to our care will be conducted with the most scrupulous attention to secure the best results for their interests.

Soliciting a share of your consignments of ore, regulas, and slab copper to this port, as well as a share of any general business you may have to transact in this quarter, We remain, Gentlemen, your obedient servants,  
ELFORD, WILLIAMS, AND CO.

REFERENCES:—Messrs. Williams, Foster, and Co., London and Liverpool; Messrs. Williams, Harvey, and Co., London and Liverpool; the Glamorganshire Banking Company, Swansea; Messrs. Alex. Bell and Sons, No. 8, Finch-lane, London.

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published every Thursday morning, price 6d. or 41s. per annum, contains Special Reports of Mines, and the Latest Intelligence from the Mining Districts, from an exclusive resident agent; also, Special Recommendations and Advice upon all subjects connected with Mining, and interesting to investors and speculators. A Record of Daily Transactions in the Share Market, Metal Sales, and General Share Lists, &c. Edited by J. Y. WATSON F.G.S., and published by WATSON AND CUELL, 1, St. Michael's-alley, Cornhill.

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## Notices to Correspondents.

\* \* Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journals should be regularly filed on receipt; it then forms an accumulating useful work of reference.

WHEAL VYVIAN.—I have observed that the returns of tin have fallen off in this mine of late, and for a long time past the agent has been talking about getting back under and draining the tin ground. When will that be?—JOHN KING.

BLENDE—"S. D." (Glasgow) will be able to obtain a supply by application to the manager of the Great Laxey Mining Company, Isle of Man.—A READER.

SORTIDGE CONSOLS.—A general meeting will be held on June 7 next. Permit me, through the medium of the Journal, to inform the shareholders that a motion for the abandonment of the mine will then be proposed for their consideration. In the opinion of many, the mine has now had a sufficient trial; it has wasted the money and exhausted the patience of the shareholders, and any additional outlay would, in all probability, end in further loss. If shareholders generally were to attend more closely to the prospects of those adventures in which they are embarked, their losses would be considerably reduced, and the selfish interests of the few would be less frequently served.—INVESTIGATOR.

EAST WHEAL FORTUNE.—Last week's report from this mine was erroneously inserted under the head of East Wheal Florence.—R. ROBERTS, Resident Agent.

\* \* The MINING JOURNAL is published in time for dispatch by the early mails on Saturday, and should be delivered with the usual morning papers of that day. In cases of irregularity, we recommend that orders be given to Messrs. Smith, or other active agents, who will readily undertake to supply it.

## THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, MAY 28, 1864.

To enable England to maintain her position in the markets of the world as a supplier of iron, economy in the use of fuel in iron-making is of paramount importance, and if the subjoined particulars, which we have received from a correspondent, be borne out when the invention is applied generally an enormous step in advance will have been made.

On Monday a series of experiments was made at the Crown Tube Works (Messrs. JAMES RUSSELL and Sons), at Wednesbury, for testing an improved fuel, the invention of Mr. A. WALL, which bids fair to become one of the most serviceable that has ever been produced.

About 12 lbs. of Mr. WALL's naphthalene fuel, or slate of coal, was from time to time, thrown into a furnace, with the ordinary fuel, and the steam which stood at 40 lbs. rose to 50 lbs. and 60 lbs. in less time than it could be expressed in writing.

What appears most remarkable in this fuel, is that it has the power of propagating its principles to the fuel burning with it. After throwing in not more than 1 lb. of the fuel, the furnace looked as if an electric light had been set in it, and the quick travelling of the flame on that side of the furnace (for there were two furnaces, separated by a partition wall under the same boiler, with side flues under the separation, was for the admission of air) in which the new fuel was burning proved the heat to be far more intense than on the other side.

The furnaces on both sides had been repaired with fresh lining of best fire-bricks, and this circumstance, which had a cooling effect on one, was visibly neutralised in the other.

Under the grate fed with coal the cinders accumulated in less than an hour to within a few inches of the grate, whilst there were only about 4 inches under the patent fuel, and that so effectually consumed that there was not a piece larger than a walnut to be found in the ash-pit.

There were not more than 10 lbs. or 12 lbs. of the new fuel used in two hours, and in that time the flame never flagged, either in the quickness of its travelling or in clearness. The clear flame and bright ash-pit left no doubt as to the power of the new fuel over coal.

Another experiment was made in the smithy. A few handfuls of Mr. WALL's fuel, broken down fine, were spread over the live cinders left after raking off the greater part, and, after being permitted to remain a few minutes, he ordered the blast to be put on, when a thick white cloud of vapour and hydrogen rose from the hearth, and ignited about 12 or 18 in. above it, near the gullet of the chimney. Not a particle of free carbon of coal appeared to be in the white cloud; in fact, it was nothing but moisture or steam from the coal, and pure hydrogen; at all events, there was no smoke or hydrogen to be seen that was not burned.

A rod of j-in. bar iron was now placed in the fire, which soon got hot, and was carried to the anvil, where it was bent back on itself, and welded at a single heat.

The smith, a clever, intelligent man, attempted to re-open the weld, but could not. The managing director then ordered him to hammer out the weld, which he did to a very small point, without its showing the least symptom of the weld splitting, or least deficiency in working, more than an ordinary bar of good iron would do that had not been welded.

A 14-in. bar square was then broken, and the ends heated. There was no scarping of the ends; they were merely heated and jammed together, and hammered (or jumped, as it is usually called). The bar was then thrown into cold water, and, when cooled to the utmost, it was placed on the anvil, and after ten strokes

of an 18-lbs. hammer it broke close to the weld, but not on or at the weld itself, so that the result cannot but be regarded as highly satisfactory.

As the discovery of a substitute for coal is a matter which should attract the most serious attention of all engaged in connection with the manufacture of iron, seeing that, to say the least, there is much doubt whether our coal fields are approaching exhaustion, all such inventions as Mr. WALL's, which promise to provide a cheap and efficient substitute, are entitled to every consideration.

Keeping this fact in view, we shall, as soon as the new fuel has been practically tested on a large scale, publish the precise details of the work done, and endeavour to show the relative advantages of the naphthalene fuel and coal; in the meantime we may add that, owing to the importance of the subject, we shall be glad to give publicity to any communication embodying inventions on the subject.

## COMMERCIAL INDUSTRY OF PRUSSIA.

It is the fashion just now to abuse Prussia. Everything appertaining to Prussia wears a very ugly appearance in the eyes of Mr. Bull; but, although we are not going to attempt to say who is right in the interminable and inexplicable Schleswig-Holstein question—although our sympathies are naturally with the weak against the strong—we are bound to say that Prussia displays evidences of considerable internal vigour.

Thus, two Prussian railway companies are about to make large issues of shares. The first is the line from Berlin to Tangermünde and Lehrte, the capital of which is 13,500,000 thalers. This line is 31 German miles in length, of which 22 German miles are on the Prussian territory, and the remainder in Hanover; it will shorten the distance between Berlin, Cologne, and Minden, by 8 German miles, and it will especially be a great advantage in connection with the transport of Westphalian produce.

A small branch is to accommodate the lakes between Berlin and Potsdam, which are the rendezvous of the polite Prussian world during the summer. Another very important branch is to be constructed subsequently from the Githorn station to Bremen, in order to establish the most direct route between Berlin and Bremen.

These additional works are to be carried out without any subvention from the State. The second company, which has just been formed, is that for carrying out the Berlin and Goerlitz line, the last link in a direct route from Berlin to Vienna. The capital is 10,000,000 thalers, or 1,500,000, plus a reserve capital of 1,000,000 thalers, which is to be touched only in case the purchase of land, the construction of stations, and the interest to be paid on capital during the prosecution of the works should amount to more than 2,915,000 thalers set apart for these purposes.

The issue will be made by a series of 50,000 ordinary shares of 100 thalers each, and another of 25,000 preference shares of 200 thalers each. Several English capitalists participate in this enterprise, the concession of which has been published in a few days. The Government of Saxony-Coburg-Gotha has just conceded a line from Gotha to Goettingen, as regards the part of its territory which is to be accommodated by the new undertaking.

The Prussian towns of Langensalza and Mülhausen have assured the execution of this line by a capital of 500,000 thalers, which they have subscribed. Several houses of commerce propose to collect a capital of 2,000,000 thalers, in shares, to establish a great wool-combing factory. A meeting of capitalists interested in the question has been held to concert the necessary preliminaries for the establishment of a line of railway from Cologne to Venloo, which would complete the Hollando-Prussian network of ironways.

A line from Posen to Frankfurt has been conceded to an Anglo-Prussian company. The steam-boat company carrying on operations upon the Elbe and its tributaries effected last year a net receipt of 379,000 thalers, of which 251,600 thalers were divided among 3145 shares—which carried the dividend for the year to 40 per cent. on the capital engaged.

This flourishing company is established, however, at Hamburg, which is not within the Prussian monarchy at all. Another kindred undertaking, the company working steamers on the lower Rhine, distributes a dividend of 12 thalers per share for 1863, being at the rate of 6 per cent. per annum.

The Union, a maritime and fluvial insurance company at Stettin, gives a dividend of 7 and one-third per cent. for 1863; the Thuringia, a fire insurance company, does not distribute any dividend for 1863, but adds its profit to its reserve fund.

The Berlin Life Insurance Company placed 607 policies, representing 831,600 thalers in 1863; 356,900 thalers were paid on 244 deaths; and 107 persons, whose insurances represented 194,400 thalers, cancelled their policies. The company has at present 9458 persons assured for 12,069,600 thalers, and the general receipts in 1863 amounted to 421,968 thalers, besides 168,726 thalers for various interests.

The net excess was 86,649 thalers. The persons insured receive 14½ per cent. interest on the premiums paid since 1859. The shareholders also received for 1863 a dividend of 23 thalers and 20 silver groschen per share.

The shareholders of the dissolved Aix-la-Chapelle Glass Manufacturing Company are to receive one preference share in the Stolberg Zinc and Lead Mining Company, and 20L, or 153½ thalers, for every five of their shares, according to a decision arrived at at the last general meeting of the company.

The private bank of Gotha gives a dividend of 6½ per cent. for 1863; and the Bank of Bremen has raised its rate of discount from 4½ to 5 per cent.

Some idea may be formed of the commerce of Berlin when it is stated that in 1863 altogether 37,251 ships and boats of various kinds entered the ports of the Spree and its canals, while in 1862 the total was only 29,431.

Such are a few hurried glimpses, taken almost at random, of Prussian commercial life. They show, at any rate, that, politics apart, Prussia will bear a comparison with any European state of the same extent for intelligence, enterprise, and financial power.

Let us hope that the armistice secured in the Dano-German conflict may result in something like permanent peace, and that Prussia may be enabled to advance steadily in the coming years in the tranquil paths of useful industry.

METALLURGY IN SWITZERLAND.—We have some useful data at hand as to the progress of metallurgical industry in Switzerland. That picturesque and sturdily independent part of Europe—for amid many collapses of republics, and many expulsions of dynasties, Switzerland has proudly remained unscathed—has about 20 forges and foundries which work indigenous and foreign iron.

The principal works are found in the Bernese Jura, in the cantons of Lucerne and Soleure. The establishment of Lanfen, in the canton of Schaffhouse, has a certain importance, as it produces annually 2500 to 3000 tons of worked iron, while the number of workmen daily employed amounts to about 150.

In the canton of the Vaud are the Valerbes Forges, which annually produce 900 to 1000 tons of iron, in bars and otherwise, representing a value of 12,000L; at this establishment balances, weights, as well as nails, are also manufactured.

MM. Vevry and Morges also possess in this locality some bell foundries and works for the production of fire-pumps. In the Valais, iron is worked at Arden, where there are some rather important establishments, which furnish annually 3000 to 3500 tons of iron.

The construction of machinery forms the principal branch of metallurgical industry in Switzerland, and has acquired a certain degree of development in the cantons of Zurich, Bale, Soleure, and Thurgovia.

The most important of this class of establishments is that of MM. Escher and Wyss at Zurich, which constructs every kind of machinery, such as apparatus for weaving cotton, machines for the manufacture of paper, mechanical tools, hydraulic motors of every kind, steamboats, locomotives, fixed and portable steam-engines, &c.

The number of workmen who are employed here ranges between 1200 and 1800, and their wages vary from 2s. to 2s. 6d. per day. A motive force of 200-horse power—steam and water—is utilised at these works, and the products which leave the establishment are exported to Italy, Austria, Brazil, &c.

At Winterthur, in the canton of Zurich, is another large establishment—that of MM. Riether and Co., who construct spinning, &c., machinery, hydraulic wheels, turbines, every description of tools for construction shops, &c.

The number of workmen employed at this establishment is 500; the first-class men receive 3s. 4d. to 5s. per day; the second-class, 2s. 6d. to 3s. 4d.; and day labourers, 1s. 8d. to 2s. 6d. per day. It is stated that engines and machinery leave this establishment annually to the value of 80,000L.

There is, besides, at Winterthur, the establishment of MM. Sulzer Frères, where heating machinery is constructed, and where 600 to 800 workmen are daily employed.

In the canton of Berne there are several establishments, but they have no great importance. A turbine manufactory exists at Franesfeld, in Thurgovia. Altogether, it would appear that the Swiss are as industrious as they are brave and hardy.

COAL IN NEVADA.—In a narrative of a visit to the Nevada coal district, by Mr. Chauvel and two or three others, it is remarked that in this interesting locality (seven miles south-east of Dayton) you can distinctly trace the territory formations of sandstone and slate in immense layers and boulders, and having, as a general rule, a south-westerly dip.

On approaching the coal locality the nature of the surrounding hills changes into a surface of alluvial deposits of gravel, pretty well timbered, and the narrow canons, widening out into a valley ¼ mile in width. The principal claims in this locality are the St. Etienne, Imperial, Foss-



At El Dorado. Active operations at present are going on at the first, named three. Numerous shafts have been sunk, however, on both sides of the creek, where the indications of coal had first been discovered, and every one attended with the same results—striking veins of what is called lignite at an average depth of about 35 ft., some reaching from 2 to 3 ft. in thickness. Underlying this vein we find a stratum of greenish-blue slate from 4 to 6 ft. thick, followed by a second layer of lignite, no less than 2 ft. in thickness, well defined, and having a south-west dip, at an angle of 15°. These developments have been made in the El Dorado claim.

The water is at present a source of great trouble to the workmen, but is a very good sign of the future value of the work as present means will allow. It is considered determined to advance the work as rapidly as present means will allow. It is considered to be evident that these coal-mines have for the most part been formed by the remains of the trees and plants that grew on the hill-sides near where it now exists, the land or the trees having been successively submerged, the formation above them being alluvial, alternating with bituminous clay, gravel, and sandstone. The ledges are large (from 14 to 18 ft. wide), and dipping in a southerly direction, and about 40 feet from the surface. Its colour is brownish black, rather soft, brittle, burning somewhat slowly in an ordinary stove. But this is also the case with the lignite pit coal—a tertiary formation of carbonised stems of trees disseminated in clay, which is found in great quantities in France, England, and China—when taken from near the surface. The gas which is produced from this coal is not much inferior to that taken from the best quality Scotch coal, and from every point of view the discovery is considered to be of the utmost importance to the district.

#### RECENT COAL-CUTTING PATENTS.

The continually increasing difficulty which colliery proprietors experience in obtaining labour at a price which will enable them to compete successfully in the various markets in which their coal is at present taken, renders the introduction of machinery a positive necessity, not to enable them to sell coal cheaper than at present, but that they may pay the workmen higher wages, and still obtain the coal at the same price per ton. Although it is nearly a century since the use of coal-hewing machinery was first suggested, it is only within the last three or four years that any machine, so nearly approaching perfection as to give any reasonable hope of success, has been devised. The first coal-cutting machine which proved of any real and practical utility was that invented by Messrs. Ridley and Rothery, and introduced in 1861 at the West Ardsley Colliery by Messrs. Firth, Donisthorpe, and Bower. As might have been expected, the first machine practically tried was found to be capable of considerable improvement, the greatest difficulty which had to be encountered arising from the necessity of sufficient strength and stability to do the work, combined with an extreme amount of compactness which should enable it to be moved with facility round sharp angles in galleries of less than half the area of an ordinary roadway.

But the mode of cutting straight on with economy and dispatch being once ascertained, the means of rendering the machine more compact soon presented itself. Messrs. Ridley and Jones having devised, probably, the most simple and efficient, the adoption of the trunk engine enabling them to reduce the length of the machine without lessening its stability, whilst the attempt to substitute the oscillating cylinder was found to cause so much oscillation in the machine itself that the alteration was of no practical utility. The invention of Messrs. Ridley and Jones, to which we have alluded above, was patented on June 8, 1863, and an illustrated description of it was published in the Journal of Oct. 3 last; a brief abstract of the several other patents taken since the success of machine cutting has been proved is subjoined:—The object of the invention of Mr. V. D. Delahaye, of Rouen, is to secure the more regular, rapid, and economical execution of the cutting required to be made for the separation of the mass of coal, rock, or earth intended to be excavated, and for boring holes therein. The apparatus consists of a frame or frames, adjustable as to height or length, with the two ends, capable of being caused, by the pressure of a screw, to hold firmly against the top and bottom of the partition walls of a mine or other cavity required to be excavated. The frames form guides for slides, worked by means of a lever and ratchet and a pulley, with a cord round it; such slides having connected to them, by means of suitable cross framing, the carriage for the travelling tool, which carriage has holes in it for the insertion of a forked bar or bars, by means of which the carriage may be worked as required along the cross framing; friction rollers being applied to the carriage, in order to facilitate its motion thereon. The operation of the workman is described as simple; it consists in the case of boring of imparting to a carrier an alternate motion parallel to the guide; in the case of making notches or cuttings, the workman has in addition to change the position of the guide as the work proceeds.

The invention of Messrs. W. and S. Firth, of Burley, near Leeds, consists, first, in adapting the apparatus used for working seams of coal at different angles of dip and rise. With this object, the frame of the carriage, on that side of it which faces the coal, or the reverse, and carries the pickers, and against which the pickers work, is of a shape to correspond with, and be parallel to, the line of the face of the coal. The axle or spindle of the horizontal picker may be let into, and work within, a bracket from the frame of the apparatus, or otherwise arranged, so that it may be adapted to the required angle, and the picker made to work in the position desired; the purpose being to work the picker at right angles to the face of the coal, notwithstanding the dip or rise of the seam, and of the way on which the carriage is moved; or this parallel position may be obtained by the employing of wheels of a larger diameter on that side or the reverse side (according as the inclination may be to the rise or the dip) of the carriage furthest from the coal against which the apparatus works. In this case, the wheels on one side would have to be mounted loosely upon the shaft, or it might be on a separate shaft, and be easily removable therefrom, and wheels varying in diameter would be required to meet the different inclinations of the seam. Another part of the invention consists in adapting an expansion chest to the air-cylinder, to obtain a better supply of compressed air to work the piston. By the mode now adopted, the supply of air from the supply-pipe is not regular or sufficient; it has, therefore, been found better to store an expansion chest with compressed air, and by valve gearing allow the supply of air necessary to work the piston to pass into the cylinder. By these means a full charge of compressed air is instantaneously obtained to work the piston. It is preferred to have an air-chest connected to the engine, and in communication with the valve-box of the cylinder, but it may be arranged at a short distance therefrom; this chest should contain a quantity equal to three or more charges of the cylinder. A third part of the invention consists in the employment of oscillating instead of fixed cylinders to work the apparatus, whereby the length of the machine may be materially reduced.

It has already been observed that the use of the oscillating cylinder caused a difficulty as to the stability of the machine, to obviate which Mr. G. E. Donisthorpe, of Leeds, has patented an invention—he observes, that when using a carriage, with picking or other cutting apparatus mounted thereon for getting coal and other minerals, it has been usual, in order to resist the vibration consequent on the regular successive impacts or actions of the picks or other cutting tools, to make the carriage of considerable weight. Now, the object of the present improvements is to obtain the requisite stability and capability to resist vibration when a light carriage is employed. This is accomplished by applying a wheel, or wheels, to the carriage to act against the roof of the working, in addition to the wheels which rest on the rails or ways along which the carriage is moved from place to place in the coal or other mine which is being worked, and such additional wheels are pressed elastically against the roof of the mine.

Mr. John Sturgeon, of Leeds, proposes certain improvements in coal and rock cutting machines, to be worked by compressed air, or other suitable motive-power, whereby the valve-gearing will be rendered self-adjusting, to suit different lengths of stroke; and the onward or progressive motion of the machine, to keep the pick or cutting-tool up to its work, will be so regulated, or controlled, that the cutting-tool must first penetrate a certain determinate depth into the coal or material under operation before the machine can advance. Thus far the whole of the inventions intended for cutting coal, which have attracted any attention, have been upon the pick system; but it appears that at Hetton Colliery a machine of an entirely different character is about to be introduced, and as Messrs. Ridley and Jones's machine is at work at the Newbottle Colliery, almost adjoining, there will be ample opportunity of ascertaining the relative merits of the two principles. Mr. Thomas Harrison, of the Tudhoe Ironworks, has constructed a turbine coal-cutting machine. The machine is on the revolving cutter principle, driven by a turbine, which is made to rotate by means of compressed air, at a pressure of from 15 to 20 lbs. per inch, and performs about 600 revolutions per minute.

The cutting-wheel is mounted on a traverse slide placed upon a frame and tram, the slide being so arranged as to allow the cutting-wheel to be placed above or below, according to the character of the seam. The air is conveyed into the top of the turbine from a receiver, or blast-pipe, at the rate of 240 cubic feet per minute, and rushes through with a velocity equal to 1700 feet per second. The cutters are six in number, and can be arranged so as to cut at any distance from the thill, and to any required depth, from 12 in. to 3 feet. The wheel containing the cutters is propelled by a scroll and scroll-wheel conveniently fixed on the back of the carriage, and the transverse slide which carries the wheel is moved backwards and

forwards by a quick-pitched screw underneath the slide. It is estimated that Mr. Harrison's machine will be capable of hewing about 400 tons per day, and the only doubt expressed is whether the circular cutter has not the disadvantage of reducing all the coal to powder that comes within its reach, instead of knocking it out in lumps as the pick does.

#### HYDRAULIC MOTIVE POWER.

Some few years since, reference was made in the *Mining Journal* to a proposition, emanating from Mr. C. Boutet, to replace steam by means of a wheel, with air-tight vessels arranged around its periphery, the vessels opposite each other being connected with a pipe, the object being to let a weight on the upper chamber force air into the lower one, and thus render the lower half of the wheel, which was immersed in the water, lighter than that above the surface; each portion of the wheel being thus made heavy and light in succession, a rotary motion was to result. Although Mr. Boutet has not yet achieved his object in this respect, he has obtained such an insight into the power of water, that he has contrived a Hydraulic Motor and a Canal Railway, both of which have been erected—the former full size, and the latter in model—at Bridgefield Hall, Wandsworth; upon the motor being put to work we shall be happy to report any results obtained.

The hydraulic motor consists of two cylinders placed side by side, and alternately supplied with water below the pistons, the upper sides of which are open to the air by holes being made in the cylinder cover; the ingress of the water is regulated by a valve, which opens the communication between the supply pipe and each cylinder alternately; and upon the top of the stroke being reached the valve is reversed, and the opening of the exhaust of the full cylinder commenced. This is accomplished in a somewhat peculiar way, the object being to raise the exhaust valve gradually and drop it suddenly, that the cylinder may be at once ready to receive the fresh charge of water. Mr. Boutet has fixed upon the shaft a portion of an eccentric ring of steel, which revolves with it, and at each revolution takes under an antifriction roller affixed to the rod attached to the slide valve, which form the exhaust, raising it and allowing the escape of the water. By the time the water has escaped the antifriction roller reaches the end of the eccentric and is released, the valve instantly closing itself by gravity ready for the next charge. Mr. Boutet states that this machine can be put in motion by a column of water two yards high, and that with a sufficient fall 60-horse power could be obtained from it. This is, of course, at present a matter of calculation, the accuracy of which can only be proved by experience, which it is to be hoped will bear out Mr. Boutet's anticipations.

The Canal Railway is intended to propel heavy loads against the stream, where speed is of less importance than great power. Mr. Boutet employs an undershot water-wheel, in a canal of uniform width, and of a size adapted to the wheel. On each side of this canal is a rail for the truck upon which the load is to be carried, and this truck being fixed to the axle of the water-wheel, the forward motion is produced by the current. The current of water being the same, the speed of the truck, of course, increases as the size of the traction-wheels fixed to the water-wheel are enlarged, and in the same way the smaller the traction-wheels the greater the load that can be moved; consequently, either high speed with low power, or great power with low speed, can be obtained at pleasure. In the model which we examined the great power with low speed was chosen; the water-wheel was 12-in. diameter and 8-in. breast, to the axle of which traction-wheels 2-in. diameter were affixed, the truck bearing upon the water-wheel, axle, and a pair of hind wheels, 6-in. diameter. With this arrangement, 300 lbs. were raised by a current of water having a descent of about 4 ft., and of sufficient volume to rise 1½ in. on the blades of the wheel. Mr. Boutet anticipates this arrangement will, in less than ten years, supersede steam in the goods traffic on railways, and we have no doubt that, if certain difficulties can be forthwith removed, his anticipations will be realised. As soon as Mr. Boutet has completed his arrangements for showing the amount of force utilised, we shall report progress.

We have had an opportunity of examining several other inventions of Mr. Boutet, in course of experimental test, which we shall take an early opportunity of fully explaining in the Journal.

#### FOREIGN MINING AND METALLURGY.

Scarcely any new sales of refining pig are reported at St. Dizier, but the price of the article is maintained by continuation at 47. 12s. per ton (charcoal made). Contracts are concluded from time to time for mixed pig, and these arrangements are entered into on a basis which has been indicated, we believe previously—that is, at a reduction of 4s. per ton for each fifth of coke substituted for charcoal. Thus, the last affair reported was concluded at the rate of 47. 4s. per ton, with two-fifths coke, and offers were made for similar lots at 47. 2s. 6d. per ton. The average course of charcoal-made pig at St. Dizier during April was about 47. 13s. per ton. Iron, although in feeble demand, is maintained firmly at 37. 4s. 6d. per ton for rolled, and 107. 4s. to 107. 12s. for beam. Machine is neglected; No. 21 makes 92. 5s. to 92. 12s. per ton. The foundries complain a good deal as to the sale of their products, which is sluggish and difficult. As to prices, they are so low that it is scarcely possible to make reductions upon them. First-class sheets have made 92. 12s. to 107. at St. Dizier; second-class ditto, 107. 4s. to 107. 16s.; third-class ditto, 107. 16s. to 111. 12s.; and unclassified 127. to 127. 8s. per ton. Plates of commerce from the Franche-Comté have made 247. hard iron, 201. mixed, 161.; and English, 141. 8s. per ton. Plates of construction have brought 235. 4s.; hard iron, 197. 4s.; mixed, 147. 16s.; and English, 137. 4s. per ton. In the Moselle group the state of affairs displays some improvement; in that district orders have become more numerous, and an approaching rise of 4s. to 8s. per ton is spoken of as probable in first-class merchant iron; while puddled plates are quoted at 117. to 127., and hard iron-plates at 187. 16s. to 192. 12s. per ton at the works.

With respect to the French coal trade, it is stated that the works of the Douvrin-La Bassée Mines are about to be resumed. The beds indicated by the Imperial Administration of Mines at this colliery were very fine, the last especially attaining the considerable thickness of 5 ft., and the principal cause which led to the provisional suspension of the mine was the deplorable delay and expense which has attended the granting of a concession. These difficulties are now overcome, and a new council of administration has been nominated, which is likely to command the support of almost all the shareholders. The situation of the colliery is good, as it is within almost half a mile of the Aire Canal, and it will become more brilliant still on the completion of a new railway from Lille via La Bassée, which will pass through the concession. Of all the collieries of the Pas-de-Calais, that of Douvrin will be the nearest to Lille, which is a very large centre of consumption; and this advantageous situation assures an easy and almost certain outlet for the products of its mines. Exploratory works are at present being carried on in the basin of the Pas-de-Calais, between the Hardighem Colliery and the Lys Inférieure, near Thérouanne; they are said to offer good chances of success, at the relatively inconsiderable depth of 700 feet to 1000 feet. The Société de Recherches de l'Estuaire, which has been exploring the Ligny-lez-Aire basin, has just reached coal earth, which will probably be worked. In the adjoining department of the Nord mention is made of the approaching resumption of the Crepin Mines, near Condé, which are very favourably situated in respect to outlet conditions, and which will have to work the fine cluster of beds in the Auzin basin. A company has been formed for working coal mines near Anney, in Savoy; and another company has just, after carrying out some important explorations, which have been crowned with success, obtained in the Sarthe a colliery concession, which it is about to put in working. An important exploratory society is also in course of formation, which will make researches with a view to the working of various points in the centre of the coal basin of the department.

The Belgian Government has received from its Consul, at Alexandria, the translation of a specification to be observed at a public adjudication, which is to take place, Aug. 1, at that capital, for the delivery of plant required for Egyptian railways. As to present prices, it may be convenient to append the last quotations current at Charleroi—Refining pig for hard iron, 37. 8s.; ditto for soft iron, 37. 8s.; pig for fine-grained iron, 47. to 47. 4s.; steely pig, 37. 16s. to 47. casting pig, No. 1, 47. 4s. to 47. 6s.; ditto No. 2, 47. 4s.; ditto No. 3, 47. 2s.; ditto No. 4, 47. 2s.; ditto No. 5, 37. 16s. to 37. 18s.; charcoal-made pig, 61.; pipes, 61. 6s. to 77.; rolled iron, No. 1, mixed, 77.; ditto No. 2, slightly hard, 77. 12s.; ditto, rolled No. 3, hard iron, 84. 4s.; ditto, No. 4, 84. 16s.; rails, 61. 16s. to 77. 4s.; charcoal-made hammered irons, first class, 141. 8s.; second class, 151. 12s.; third class, 161. 8s.; double T irons, first class, 77. 12s.; second class, 81. 12s. to 87. 16s.; third class, 107. 12s. to 107. 16s.; fourth class, 114. 16s. to 127.; plates of commerce, 2 to 2½ millimetres thick, 96. 16s.; ditto, 1 to 1½ millimetres thick, 107. 12s.; ditto thinner, 117. 8s. per ton. At Liège, refining pig, hard iron, has made 37. 2s.; ditto, No. 2, 37.; grey refining pig, 37. 10s. to 37. 12s.; casting pig, No. 1, 47. 8s.; ditto, No. 2, 47. 4s.; ditto, No. 3, 47. 2s.; ditto, No. 4, 37. 18s.; ditto, No. 5, 37. 16s.; rolled iron, No. 1, 77. 4s.; ditto, No. 2, 77. 16s.; ditto, No. 3, 84. 4s.; plates, No. 3, 107. 8s.; ditto, No. 2, 97. 12s.; ditto of commerce, coke-made, 127. 8s.; ditto, charcoal-made, 161. 8s. per ton. Minerals are wanted in the Charleroi basin, and are quoted there at high rates. The difference between the tariffs current for Belgian and English irons continues to bring to Belgium some orders from England; but it is urged that Belgian ironmasters and companies will do well not to raise their present rates, since, as soon as Great Britain finds it profitable to purchase Belgian products, she will neglect the Belgian market. Some of the Belgian establishments for the construction of machinery complain of a want of orders; it had been hoped that they would profit from the revival in metallurgical affairs, but this result has not at present appeared. Advances from Paris state that construction establishments are not more happily circumstanced in that capital, several of the principal of them having found it necessary to disclaim some of their workpeople. M. Jules Coste has just quitted the direction of the Sart-lès-Moulines Colliery, and has been replaced by M. Emile Jaumaux, previously attached to the same concern in the capacity of engineer.

There have been very few transactions in copper at Paris during the last few days, and prices have remained without change. English copper is quoted at 92.; Lake Superior, 122.; rough Chilean, 92.; rolled red, 106.; and yellow ditto, 90. 4s. per ton. A rather noteworthy transaction, involving 230 tons of Chilean, to deliver by ship, expected towards the end of autumn, has been concluded at Havre at 92. 8s. per ton. At Marseilles, Spanish is quoted at 98.; rolled red & sheetings, 112.; and yellow ditto, 96. per ton. At Cologne the market has been feeble, and English copper has given way slightly; at Berlin the article has also been offered rather pressingly, but some small parcels have been taken off the mar-

ket at previous rates. At Hamburg transactions have been limited to small lots to meet the requirements of consumption. Tin remains without variation in price at Paris. On the Dutch market Banca has changed hands at 66 fls., and Billiton has made 65½ fls. The other continental markets have been quiet for this article, and prices have been comparatively feeble. Rough French lead has fallen to 221. 16s. at Paris; Spanish maintains itself at 231. 4s.; and rolled and in pipes has made 251. 12s. per ton. At Rotterdam the market has presented no great activity, but prices have been sustained. At Liège there has been little variation; prices have ranged at 207. 12s. to 207. 16s. for saumons, and 231. 4s. for rolled. At Berlin there has been little activity in transactions, nevertheless, the German works do not appear disposed to make reductions from present prices. The Hamburg market has been firm for lead. At Paris rough zinc maintains itself firmly at 231. 4s., and rolled has made 301. 2s. per ton. On the Liège market the article maintains itself, and is tending upwards; ingots have made 207. 16s. to 211. 12s., and rolled Vieille-Montagne zinc, 271. for No. 9, 291. for No. 8, and 341. per ton for No. 7. Zinc is held at Hamburg at very high prices, and is particularly sought after for spring delivery and for export to the United States; the importations on this market from January 1 to April 30 this year amounted to 133,500 centners. At Breslau the article has been in good demand, and prices have displayed an upward tendency.

This allusion to zinc reminds us that we did not fully dispose last week of all the data at hand with regard to the results of the exercise of 1863 to the Vieille-Montagne Company. The company's establishment in Sweden became productive early in July, 1863, and the mechanical apparatus has worked without interruption, although all the arrangements for washing minerals are not yet fully installed. The establishment produced the company last year 3000 ton of biondere, which came to hand in Belgium before the closing of the navigation; almost the whole of this total of 3000 tons, on being submitted to reduction in Belgian works produced a metal of excellent quality. The company's biende mines in Sweden have been installed for a large production of rough minerals. A railway which unites them to the Amberg washing establishment, and to the port of embarkation, has been entirely completed, and is accommodated by a locomotive and service trucks. Effective transport arrangements are, then, assured, whatever may be the production of the company's mines, and are effected in most economical conditions. The development of the new establishment depends in part on the working of the company's mechanical works, the production of which is limited by the apparatus possessed, the improvements of which it is susceptible, and the inexperience of a working class, which has to be formed. Nothing will be neglected by the administration to hasten the progressive development of the production, and to make it bear a due proportion to the very large capital which the company's Swedish establishment now represents. The roasting works, contrary to the anticipations of the directors, will not be completed and put in operation before the close of the present exercise. The directors are installing at Gothenburg, on land purchased by the company, a vast warehouse for the storing of minerals and coals. This warehouse will be completed in the course of the current summer, and it will render the company important services by assuring the regular course of its maritime deliveries in both directions. The Swedish establishment has entailed on the company heavy sacrifices both of money and time. It was impossible to foresee all the obstacles and difficulties which had to be encountered in a country in which it was absolutely necessary to create everything, and where the climate sometimes defies the greatest efforts, and disarranges all calculations. The essential element of the question, however, which stands out in compensation for the misfortunes experienced by the company in the prosecution of this feature of its undertaking, is that the mines respond entirely to the first appreciations formed respecting them, and that when the working has been fully carried out, at a depth of 160 ft., it will—extending, as it does, over nearly two miles—give an enormous production of rough minerals for many long years to come. As regards the financial results of the past exercise, it appears that the excess of the rough receipts over the current expenditure was 153,902l., but from this amount deductions had to be made to the aggregate sum of 29,014l., for interest on obligations, redemption of the insurance, bad debts, &c., accounts leaving a net available balance of profit of 124,888l., which was apportioned as follows:—20 per cent. to the statutory reserve and redemption account, less the representation of "interest" on the share capital (18,000l.), 21,378l.; 10 per cent., subject to the same condition, for the administrators and commissaries, 10,890l.; 2½ per cent., subject to the same condition, for the director-general, the sub-director, and the general secretaries, 2672l.; and a dividend at the rate of 16s. per tenth share on the 112,500 tenth shares issued, 90,000l.; leaving 188l. to be carried forward to the contingency account. The first half of the dividend of 16s. per tenth share became payable May 10, and the remaining half will be distributed on Nov. 10.

#### REPORT FROM NORTHUMBERLAND AND DURHAM.

MAY 26.—The Coal and other trades here continue good, there being a fair demand for the staple productions of the district—that is, coal, coke, iron, alkali, glass, &c. On the Tyne and Wear increased activity is apparent in nearly all those trades. On the Tyne the chemical works are very active, and the new works now in course of erection at Hebburn are being actively pushed forward. It is understood that the proprietors of those works (the Messrs. Tennant, of Glasgow) intend also to erect a large number of dwelling-houses for the workmen to be employed. Although the price of pig-iron and other descriptions of manufactured iron has not receded much lately, yet the demand is scarcely so brisk as it was a few weeks ago; and at some works stocks are accumulating.

We noticed in a former Journal that Messrs. Ridley and Co.'s coal-cutting machine was to be introduced at the Broomhill Colliery, in Northumberland; it has now been at work some time, is doing efficient duty, and is understood to have given satisfaction to the managers and owners. This is one of the Hartley steam coal collieries; and, should the machine prove successful, which appears to be very probable at present, there can be no doubt that it will be introduced into other hard coal collieries in the North. The machine is still in use at the Hetton Colliery, and is understood to be doing well there also.

Several cases have occurred lately at the collieries here of men absconding themselves from their work, not having given due notice before leaving. William Heron, a hewer at the Washington Colliery, was charged with this offence before the Gateshead magistrates, and pleaded in defence that the works were insufficiently ventilated. In consequence of this statement the works were examined on the 20th inst. by Mr. Dunn, the Government Inspector, who stated to the magistrates that he found the ventilation quite good, and the Bench on hearing the evidence decided on sending the prisoner to prison for one month.—Mr. Swallow, a viewer at the Harton Colliery, was also summoned before the Shields magistrates, a few days ago, for wages; the man claiming the wages having left the works without giving notice. He pleaded ignorance as to the necessity for giving notice, but it was shown to be customary, not only at Harton, but generally throughout the trade, and the case was, therefore, dismissed. He, however, on leaving the witness-box, took off his boot, and made a most brutal attack on Mr. Swallow, inflicting a severe wound upon the face of that gentleman. For this barbarous trick he was imprisoned six weeks.

#### REPORT FROM MONMOUTH AND SOUTH WALES.

MAY 26.—There is a slight lull evinced in the Iron Trade, the principal cause of which is, no doubt, the expected paucity of orders from America, owing to the operations of the new tariff. The same may be said of the Tin-plate Trade, and quotations for tin-plates show a downward tendency. The Coal Trade remains without any material alteration, the collieries being in active employ. The men continue troublesome, especially in the Aberdare valley, but it is still hoped that the district will be saved from the calamity of a general lock-out. The New Vernon Tinworks, Briton Ferry, have just been opened, and the event was celebrated by a public dinner, which took place on Saturday last. About 140 workmen were present at the dinner, besides the agents, partners, and invited guests. The works are the property of Messrs. Smith, Morris, and Co., and a good number of hands will receive regular employment. The new tin-plate establishment at Melnycryddan is also now in full work, and the neighbourhood of Neath and Briton Ferry is in a more prosperous state than has been the case for a long time. The emigration movement has again become general throughout the district, and a large number of men are leaving at every pay. Fully 90 per cent. of the emigrants have for their destination the once United States, and the remainder are distributed over Canada, New Zealand, the Australian colonies, &c. The reported high wages to be received is the great inducement to leave their native country, and many have their passages paid by friends who have already resided for years in the States. A scarcity of hands at many of the works is the result of this extraordinary emigration, and if the present drain continues the matter will become a serious one for employers; and, in fact, it has already assumed serious proportions. Since the commencement of the year 1863 it cannot be denied that hundreds of the best and most skilled workmen have emigrated, and it is with no ordinary difficulty their places are filled with competent hands. Some are of opinion that a large proportion will again return in a few years; but, whether this will be the case or not, every possible inducement ought to be given to the emigrants to stop in the land of their birth, and thus prevent any serious inconvenience to trade.

The prospects of Milford Haven were never brighter and more promising than at present. Two dock bills are being promoted in the present session, one by the Hubberton Dock Company, and the other by the New Milford Dock Company. A limited liability company has been formed, under the title of "The Pembroke and Milford Dock and Shipbuilding Company," with the view of purchasing Messrs. Allen and Watlow's shipbuilding yard, and extending the same. Messrs. Venn and Watson have also taken extensive premises for shipbuilding at Milford. At a public meeting, held in attendance of the commercial development of the harbour, Mr. K. Foster, Chairman of the Great Western Railway, and attended, and promised every possible support to any feasible scheme for making Milford a first-class port. These items indicate that prosperity is dawning upon Milford, and if those who are particularly interested in its progress only make good use of the present opportunity, success will very probably be the result. It should also be added that Col. Greville, who has been indefatigably exerting himself for years to develop the resources of the haven, is likely to have his cherished schemes of a pier at Newton Noyes carried out before long; and when this is completed there is no doubt that a large trade will soon spring up at Milford.

At the Bristol Bankruptcy Court, on Tuesday, the last examination and discharge sitting was held in re J. Bird, Hiram, colliery proprietor. Mr. Henderson appeared for the assignees, and said that the accounts had not been filed in time, owing to the illness of the bankrupt, and a short adjournment would, in consequence, be necessary. The discharge sitting was adjourned for 14 days.

Messrs. Lock, Halm, and Co.'s banking business, at Tenby and Pembroke, has been transferred to the Bank of Wales. Mr. Halm is to continue as manager of both establishments.

The traffic on the local mineral lines shows a remarkable increase of late, which is pretty conclusive evidence of the activity in the iron and coal trades. We following ac-



the total returns for the first 20 weeks of the present half-year, and the corresponding period of last year:—

	1864.	1863.
County of Glamorgan	£11,116	£10,148
Monmouthshire	£8,044	£6,748
Rhymney	19,220	17,739
Taff Vale	113,294	103,325
Vale of Neath	80,237	87,777

The arrivals at Swansea include—General von Döbeln, from Almeida and Castil Deferro, with 72 tons of copper ore, for Messrs. Elford, Williams, and Co., and 24 tons of copper ore to order; Darling, from Coquilmo, with 197 tons of bar copper and 216 tons of copper ore, for Mr. Charles Lambert; Europa, from Alicante, with 155 tons of silver ore, for Messrs. Dillwyn and Co.; Henry Rankin, from Caldera, with 500 tons of copper regulus, for Messrs. H. Bath and Sons; Robert Bright, from Carigal, with 360 tons of copper ore, for Messrs. H. Bath and Sons; Hastings, from Hondokip Bay, Cape of Good Hope, with 419 tons of copper ore, two addressed packages containing specimens, and two bags of cutlery, for Messrs. Richardson and Co.; Embia, from Krogero, with 130 tons of nickel ore, for Messrs. Vivian and Sons; Egbert, from Caldera, with 33 tons of unwrought copper in pigs and 381 tons of silver ore, for Messrs. H. Bath and Sons; Colina, from Cherbourg, with 300 tons of iron ore, for the Dowdall Iron Company, and five barrels and a case containing minerals, for Messrs. Boudry and Voss; Hecla, from Cuba, with 567 tons of copper ore and 56 tons of copper regulus, for the Coburn Mining Company; Tallo, from Krogero, with 130 tons of nickel ore, for H. H. Vivian and Sons; Jessie Jamieson, from Caldera, with 820 tons of copper regulus, for Messrs. H. Bath and Sons; Stranger, from Coquilmo, with 130 tons of copper ore wrought in pigs and 220 tons of copper ore, for Mr. Charles Lambert; Jean Baptiste, from Cherbourg, with 38 tons of iron ore, for Mr. E. Walters; Florence, from Cuba, with 449 tons of copper ore and 50 tons of copper regulus, for the Coburn Mining Company; Clara Novello, from Santander, with 260 tons of iron ore, for Mr. R. Cowell; Violet, from Bilbao, with 180 tons of iron ore, for Mr. R. Cowell.

Only a few weeks since I had to chronicle the death of Mr. Wm. Llewellyn, of Pontypool, one of the most eminent mining engineers and antiquarians in the kingdom, and this week I have to record the demise of Mr. W. S. Clark, of Aberdare. The deceased gentleman filled the important and responsible position of mineral agent to the Marquis of Bute for a period of 21 years. He was a Fellow of the Geological Society, a Fellow of the Society of Antiquaries, a Member of the Institute of Civil Engineers, and he was also connected with several other learned and scientific societies.

#### REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

MAY 26.—There is no great change in the Iron Trade. The works are generally pretty fairly employed, although the orders on hand are not large. With regard to the prospects of the American trade, there appears a growing conviction that the export there will not be seriously affected by the advance in the tariff, as it is felt that the States must buy iron. The orders for other markets are tolerably good, and the East Indian demand is improving. Pig-iron is scarcely selling at all, and the makers of pigs complain sadly of the unremunerative position of the trade, with high wages and falling prices. The colliers in the Bradley district are still out against the reduction in wages from 3s. 6d. to 3s. 3d. There is, however, an impression that they are disposed to go in. Colliers are not now by any means as scarce as they were. The Hardware Trades of Birmingham and South Staffordshire continue steadily prosperous, without any extraordinary animation.

In an allusion in this letter, last week, to the Conference at Brierly Hill, of ironworkers' operatives, an error appears, which is probably the result of indistinct writing. It is stated—"These rash Unions are an evil, and will end, as is always the case with an unwieldy Government, in making a few omnipotent." The word "rash" should have been "vast," or some such word. The Conference at its last sitting, the day after the letter was written, was addressed by a Mr. Kane, who represented the Gateshead Union, and who desired on the part of that body to effect an amalgamation, so that there might be a single executive for all the ironworkers from Scotland to South Wales. The proposal led to a good deal of discussion, but a majority rejected it, preferring a resolution pledging the Brierly Hill Union to harmonious action with the one at Gateshead. It is remarkable what an inclination the working classes appear to have for vast uniform organisations over which a few men exercise absolute sway. In democratic France, for instance, the idea of the "Republic, one and indivisible," has had magical attractions, resulting in an empire, supported by an army, and which wages war against independent intellectual freedom. In the American States, again, what sacrifices of men and of material wealth are being made that the people may belong to a Government ruling over a vast area and a vast population, and how ready the people are to sacrifice the blessings of civil freedom and exemption from taxation, that they may coalesce a great community into submission to one government.

It would be interesting to know by how many workmen the conference at Brierly Hill was actually elected, and also to enquire what chance a few men have of making their opinions felt through such a vast organisation. Empires based on universal suffrage, joint-stock companies whose directors are practically unassailable, and trades' unions, are proving how easy it is for a representative system to be merely a cloak for the most heinous subservience to an autocrat or an oligarchy. It is, however, due to the Brierly Hill Conference to say that they conducted their proceedings with much moderation and good sense; but it is contrary to all experience to suppose that an executive, with so little control ruling so large a body of men, can help becoming a great tyranny, supposing it can succeed in maintaining its authority.

A new contrivance for the secure fencing of working pit shafts has just been tried, and found to answer successfully. It is the invention of Mr. W. Blakemore, the colliery manager to the Ozer Bed Iron Company, Wolverhampton, and it has just been applied to one of their pits. The following is a description of the apparatus:—At each corner of the wagon is fixed a rod of 1½-in. iron, about 3 ft. in height. To each of these upright iron pillars are attached two rods of 1½-in. iron, which run through "slit" holes in two wooden posts, driven into the ground on the other side of the pit's mouth. The upper rods run over pulleys let into the upper holes of the wooden posts, while to the lower rods, upon the ends on the other side of the posts, are attached two small rollers, about 6 in. in diameter, running on rails 9 ft. long, formed of 1½-in. angle iron. These rods are united at the back of the wooden pillars by two other horizontal iron bars; while a movable fence, easily hung on the vertical iron posts, completes the square fence, by which the mouth of the pit is surrounded whenever the wagon is withdrawn from over it. Through this fence no skip, horse, or man can fall down the pit. The fence, it will be seen, travels with the wagon.

#### REPORT FROM DERBYSHIRE, YORKSHIRE, AND LANCASHIRE.

MAY 26.—The news from America has had no perceptible effect upon the Iron Trade, whilst the ease in the Money Market has given greater confidence to merchants. There is a comparative absence of speculative transactions, and with the present healthy demand for all descriptions of iron, there is no probability of any immediate decline. The dispute between the ironmasters and their workmen is not yet settled, though many attempts have been made at a modification of the question. The National Association of Ironworkers has taken up the matter fully, and deputations from that society have waited upon deputations of the ironmasters. The masters have determined not to entertain any propositions which do not contain the spirit of the original documents. The workmen's union offer not to interfere with the terms mutually agreed upon between the master and workmen, but they wish to give and receive one month's notice prior to the termination of an agreement. The masters have not accepted the propositions of the men, and the dispute is likely to be of a prolonged duration. The whole system of labour in the Yorkshire district seems to have caught the contagion of strikes. The brickmakers have been on strike, and now the filemakers at Sheffield have turned out for an advance in wages equal to about 20 per cent. The manufacturers of files state that they cannot afford to pay the advance, on account of the competition to which they are subjected, and that if the men persist in their demands it will drive the trade from the town. Such is the state of the question, and we believe, from all we can learn, that a permanent loss of trade will result from the strike if it be continued.

The Coal Trade continues in a very active state, though the weather is warm. The demand for the London and southern markets increases, and this demand is likely to continue, on account of the activity of the iron trade in the districts through out these counties. The unfortunate lock-out in South Yorkshire still continues, and is assuming more threatening aspects every day, and it is likely to be of long duration. The most disastrous effects are arising from the stoppage in the coal getting. The coal required for the London market is much needed from the South Yorkshire coal field, but on account of the lock-out it cannot be obtained, and the result is that a substitute for the article is being got from other coal-producing districts. Derbyshire is supplying a large quantity on account of the lock-out, and this, with the increased demand required for the iron manufacture causes the trade to be exceedingly brisk.

A movement has been started by the working colliers in the Erewash Valley, Derbyshire, to present to Mr. John Hesley, late Government Inspector, a testimonial, in recognition of his exertions to preserve the lives of the working colliers. A committee has been formed, and subscriptions are now being obtained.

Almost every week additional discoveries of the ironstone deposits of the North Yorkshire moors are being made. In addition to the great band in Rosedale, to which the North-Eastern Company have formed a railway, and the Gotland Mines, also in work, on the Whitley Railway, the mineral has been found present in Beilade (the place supposed to have been worked by the monks of Rievaulx Abbey, before its dissolution), and in the whole of the valleys opening to the Vale of Pickering, and various schemes are on foot for reaching the places by railway. In the Howardian Hills, in the Derwent Valley, some four miles west of Malton, the mineral has been slightly worked. On the stagnation in the trade the workings ceased, but they are now being re-opened (on purchase) by a company of Scotch capitalists. These mines adjoin the Scarborough Railway. At Oldstead, two miles from Coxwold, on the Malton and Thirsk Railway, the stone has also been discovered, and last week the large estate of Keady Castle, near Pickering, was found to contain a very valuable and easily worked seam, rich in ore, and only a little below the surface. Down Cold Keady Slack, a railway of two miles would connect with the Whitley and Pickering at Levalham. There is all inducement to form railways to these deposits, especially as those now in work are fully engaged to supply the demand. Meanwhile, a coasting trade between Hull and Middlesbrough by screw steamers is springing up, for the purpose of making Hull the depot for supplying pig-iron from the Yorkshire moors, both for exportation and home consumption. This is a new feature in Hull imports.

A veritable SOAP MINE has been discovered in Esmeralda, California. The vein is 10 ft. wide, 600 ft. long, and runs very deep. The soap when taken from the mine is as soft as putty, but hardens on exposure to the air.

#### ON THE WASTE OF COAL.

BY P. L. SIMMONDS.

The large demands now made upon our collieries, and the extending use of coal, should lead to a more thrifty system of working; and it is satisfactory to find that this subject, of the great waste of coal, has lately been occupying attention in many influential quarters. Rich as our stores of mineral fuel are, they should be worked and husbanded with care, for we are told on authority that the time is not remote when we shall have to encounter the disadvantages of increased cost of working and diminished value of produce. The quantity of coal yearly worked from British mines has been almost trebled during the last 20 years, and has probably increased tenfold since the commencement of the present century; but as this increase has taken place pending the introduction of steam navigation and railway transit, and under exceptional conditions of manufacturing development, it would be too much to assume that it will continue to advance with equal rapidity.

Mr. Robert Hunt tells us that the amount of coal raised in 1863 was more than 83,500,000 tons. The demand for fuel and for the condensation of steam, in our dwellings, factories, locomotives, and steam-vessels is daily becoming more extensive, while 8,000,000 tons a year are now exported. Mr. Hunt, in his "Mineral Statistics of the United Kingdom, for 1861," also informs us that 2,500,000 tons were wasted in that year in the process of working and burnt at the surface, in the collieries of Durham and Northumberland only. The total waste must, therefore, have been very large, although information thereof cannot be correctly obtained.

The late Dr. Buckland, in an address delivered to the Geological Society, in 1841, called attention to the wanton waste which for more than 50 years had been committed by the coalowners near Newcastle, by screening and burning annually, in never-extinguished fire heaps at the pit's mouth, more than 1,000,000 chaldrons of excellent small coal, being nearly one-third of the entire produce of the best coal mines in England. This criminal destruction of the elements of our national industry, which is accelerating by one-third the not very distant period when these coal mines will be exhausted, is perpetrated by the colliers for the purpose of selling the remaining two-thirds at a greater profit than they would derive by the sale of the entire bulk unscreened to the coal merchant.

Sir W. Armstrong, the President of the last meeting of the British Association, dwelt very strongly upon the subject. "Were we," he said, "reaping the full advantage of all the coal we burn, no objection could be made to the largeness of the quantity, but we are using it wastefully and extravagantly in all its applications. It is probable that fully one-fourth of the entire quantity of coals raised from our mines is used in the production of heat for inactive powers, but the average quantity of coal which we expend in realising a given effort by means of the steam-engine is about 30 times greater than would be requisite with an absolutely perfect heating engine."

"In those applications which are generally of a metallurgical nature the same wasteful expenditure of fuel is everywhere observable. In an ordinary furnace, employed to fuse or soften any solid substance, it is the excess of the heat of combustion over the body heated, which alone is rendered available for the purpose intended. The rest of the heat, which in many instances constitutes by far the greatest proportion of the whole, is allowed to escape uselessly into the chimney. The combustion also in common furnaces is so imperfect, that clouds of powdered carbon, in the form of smoke, envelope our manufacturing towns; and gases, which ought to be completely oxygenised in the fire, pass into the air with two-thirds of their heating power undeveloped. Not less wasteful and extravagant is our mode of employing coal for domestic purposes. It is computed (adds Sir W. Armstrong) that the consumption of coal in dwelling houses amounts in this country to 1 ton per head per annum on the entire population, so that upwards of 30,000,000 tons are annually expended in Great Britain alone for domestic use. If anyone will consider that 1 lb. of coal applied to a well-constructed steam-engine boiler evaporates 10 lbs., or 1 gallon of water, and if he will compare this effect with the insignificant quantity of water which can be boiled off in steam by 1 lb. of coal consumed in an ordinary kitchen fire, he will be able to appreciate the enormous waste which takes place by the common method of burning coal for ordinary purposes. The simplest arrangements to confine the heat and concentrate it upon the operation to be performed would suffice to obviate this reprehensible waste. So also in warming houses, we consume in our open fires about five times as much coal as will produce the same heating effect when burnt in a close and properly-constructed stove. Without sacrificing the luxury of a visible fire, it would be easy, by attending to the principles of radiation and convection, to render available the greater part of the heat which is now improvidently discharged into the chimney."

In my work "On Waste Products," a year ago, I called attention to this subject, when I stated that "an immense amount of coal is wasted at coal mines by the process of breaking up the coal into the proper size for market. In this operation a large percentage of the coal is finely pulverised, and is thrown aside as unsaleable. This fine and wasted coal is of the purest quality. A correspondent of the *New York World*, writing from the Pennsylvania coal mines, states that at a single colliery, doing a good business, 400 tons of coal per day are made to pass through the machines for breaking up the lumps, and the waste is about 20 per cent., or 80 tons daily. All this amount has to be mined, brought to the breaker (two iron cylinders, with iron teeth, revolving in a horizontal position, parallel to each other, and about 10 in. apart), and, after this process of destruction, has to be carried away and piled up. One may see at any colliery, of several years' standing, enormous quantities of this now worthless article, very pyramids. All this, except what little is made in the mines by blasting, has to be paid for by the operator, and is a loss to the owner of the land, as well as the human family, and adds price to that which the consumer buys in the market. The waste in the collieries in Schuylkill and Luzerne counties, Pennsylvania, is believed to be over 1,000,000 tons annually, worth 1,000,000. A small kind of coal, called Burgie, is used in this country for burning in engines. Coal dust, or slack ground in a mill, is manufactured in the districts of Manchester, Wigan, Rainhill, &c., and used by ironfounders exclusively for the mould. Burgie, the dust coal of the mines and screenings from house coal, is in Wales and other parts pressed into cakes of artificial fuel. Warlich's patent fuel consists of bricks made by compressing with an hydraulic press dust of coal, rendered coherent by bituminous matter, and partly charred. These bricks measure 9 in. by 6½ in. and 5 in., are dense, and require breaking before using. They burn with but little smoke, and form an excellent fuel, particularly where economy of room is an object, as they can be stowed very compactly. In many collieries no important use has yet been made of the dust coal. By similar treatment every pound of it might be saved, with a good profit to the manufacturer.

"Whoever," observes Prof. Booth (Smithsonian Report), "witnesses the enormous amount of fine coal thrown in heaps near the anthracite mines, and allowed to be washed away by streams, must have regretted the waste of a quantity of fuel, which will never be recovered. Many patents have been taken out in England with the view of saving fine culm, by mixing it with adhesive combustibles, such as coal tar, &c., and pressing it into blocks. One patent proposes mixing dried and ground spent tan with resin oil, and compressing into blocks. Another patent uses also refuse tan and peat with coal-tar, &c. But all these processes would seem to be ineffectual at the American anthracite mines, because not sufficiently economical in comparison with the price of coal. It is to be hoped that a process will yet be devised by which the fine dust and waste may be rendered equal in value to the pure anthracite, or even superior to it for some purposes where more flame is required. The use of plaster and other like cement to unite fine coal into blocks or masses for fuel, as proposed by Hollands and Whittaker (in 1849), as objectionable, since it does not 'add fuel to the fire,' but 10 per cent. ashes, in addition to the large amount of ash usually in fine culm."

It was recently stated at the Dudley and Midland Geological Society, by Mr. Rupert Kettle, the Chairman, that by the improper working of the thick coal measures, only one-half of all sorts (coals, lumps, kibbles, and slack) were brought to the surface applicable for the purposes of use and sale. Thus an acre of thick coal, on the principle of working now adopted, is worth only 6000£, whereas if the 36,800 tons were in the same shape as the 18,000 tons, it would produce 13,100£. The same theory carried out in respect of the thinner measures would lead to the result that though a larger proportion of coal was brought out of those measures than out of thick coal, still the actual portion remaining in the earth, in comparison with the quantity brought to daylight, is so great that it is worth every attention that can be bestowed upon it, so that its working may be more economically effected.

Many of the inferior seams of coal can be worked only in conjunction

with those of superior quality, and they will be entirely lost if neglected until the choice beds are exhausted. Although coal is private property, it was well observed by Sir W. Armstrong, that its duration is a national question, and Government interference would be justified to enforce such modes of working as the national interests demand.

The question is not how long our coal will endure before absolute exhaustion is effected, but how long will those particular coal seams last which yield coal of a quality and at a price to enable this country to maintain her present supremacy in manufacturing industry.

—Journal of Society of Arts.

#### IMPROVEMENTS IN RAILWAY PLANT.

An improved and very efficient break for railway trains, invented by Mr. C. Boutet, has been practically and severely tested during the past week at Bridgefield Hall, Wandsworth; and, as the model of every portion of the railway and rolling-stock are made exactly to scale, a fair opinion can be formed of the advantages which would result from the application of the invention upon railways generally. The great feature of the apparatus is that the force of the train is itself employed to apply the break, the duty of the breaksmen being thus confined to throwing the break in gear. The break-blocks are of the ordinary construction, but are hung upon a cross piece hinged to the body of the carriage, such cross-piece being put in connection with a strong collar, which fits upon the axle of the wheels by means of a flat chain. Whilst the train is progressing in the usual way, the collar being loose on the axle, the break-frame falls away from the wheels, and does not in any way interfere with its forward motion. But on the same axle as this free collar is a fast one, and the fast and loose collars are each provided with inclined teeth, which, by the simple transverse movement of the loose collar, can be made to take into each other. It will be readily understood that when it is desired to apply the break all that is necessary is to throw the teeth in contact, and thus cause the flat chain to wind itself upon the axle, and force the break-blocks against the peripheries of the wheels. A similar arrangement may be placed beneath as many carriages of the train as may be considered desirable, and the lever for throwing each in gear is connected by a chain with the break-frame next behind it.

To test the power of the arrangement, a heavily laden train was run down a greatly inclined model railway, and, upon the application of the break, the train was brought to a dead stand in from half to three-fourths the length of a carriage. But this is not the only advantage of the system; for the application of the hindmost break first, and the remaining breaks being applied in succession by the break which precedes it, prevents any shock whatever, the buffers not approaching each other more nearly after than before the break is applied. Mr. Boutet finds that where the breaks are applied to three carriages in a train of eight, he can at all times ensure pulling up in the space we have mentioned, and that, too, without sufficient concussion to break a couple of glasses placed beside each other. As there is scarcely any limit to the strength that can be given to the collars and chains already mentioned, the Boutet break can be made available when all others would fail; and it has the additional advantage, that the whole break-power of the train being under the control of a single man, there could be no irregularity in its application.

In connection with the prevention of accidents on railways, Mr. Boutet has also contrived an improved system of automatic signals, by the use of which the passage of a train is made itself to exhibit the danger signal until it is a safe distance in advance, and then to restore it to its normal position. To accomplish this Mr. Boutet proposes to arrange a series of signal-posts along the entire length of the railway, the first signal being connected with the third, the second with the fourth, and so on to the end of the line. Two projecting arms are affixed to the train, the one on a level with the roof, and the other with the floor of the carriages. In passing the first signal, the upper arm comes in contact with the signal, and sets it at "danger" until the train passes the third signal, when the lower arm catches the bottom of that signal, and thus pulling the wire connected with the first, restores the first to its original position indicating to a following train that the line is all clear between the said signals. In the same way the second signal is restored to its original position upon the train passing the fourth, so that there is always the cover of one signal, and sometimes of two, which can safely be considered as an effectual preventive of collision.

As there can be no doubt that it is to the advantage of all parties that railway accidents should be reduced to the minimum, it is to be hoped that Mr. Boutet's inventions will be thoroughly tested, more especially the break, which has really much to recommend it, for if it work as well in practical use as in the model, it will prove one of the most powerful yet introduced.

#### COLD DRAWN STEEL TUBES.

More than two years ago (for it was before the opening of the International Exhibition) we were informed, through a channel which had always possessed our confidence, that Mr. Haworth, of Lillithgow, was "drawing" tubes of steel in the cold state. In such matters mere novelty goes for nothing with us, for we believe in the possibility of everything for which we can find a reason in natural principles, and, in some cases, a strong analogy goes a great way with us. But we did not see the reason for believing that steel could be drawn in the cold state into tubes like lead, notwithstanding that we were fully aware of what is done in wire-drawing, and of what Mr. Bernard Lauth had accomplished in the cold rolling of iron. We rested content with the belief that, instead of having drawn cold steel into tubes, Mr. Haworth was only endeavouring to solve this problem. More recently we learned that he was carrying out his trials in Paris, but we did not deem it necessary to cross the Channel in order to gather information, and time has slipped by, until we now find the drawing of large tubes of cold steel an accomplished fact in London. On going into the matter, we find that the impracticability implied in our original estimate of the process was not imaginary, for it is not every steel, nor perhaps any kind of iron, that can be drawn cold. We are informed that the attempt has failed (and several evidences of failure have come under our own observation) with the best known makes of cast-steel—"homogeneous metal"—and the higher qualities of iron. The only steel, thus far, which has survived the discipline of drawing is that, we believe, made by Mr. Haworth himself; but we do not apprehend that there is any secret in this, and we have no doubt that when the required quality for this new purpose is once indicated there will be found plenty of steel makers to produce it. However this may be, there need be no doubt that such a quality of steel has been already produced. A bar of steel of this quality, and (say) 3 ft. long, and 1½ in. in external diameter, may be drawn, at the rate of 6 or 8 in. per minute, through a die, or "wordre," of 1½ in. only in diameter. The original internal diameter of the tube is exactly preserved, with the addition of a fine internal polish, while the entire reduction of diameter goes into increased length. Mechanically, the operation is much the same as that of drawing lead pipe, the great difference being in the amount of force applied. It is extraordinary how the particles of steel re-arrange themselves in this process, for it is self-evident (when the original and ultimate forms of a drawn tube are considered) that there has been a re-arrangement of the ultimate atoms of the steel. Yet when one has once seen the steel drawn out like vermicelli, and has begun to realise that it is but a question of force, after all, the difficulty is not necessarily greater than in comprehending how lead is drawn in the same manner.

No reflecting engineer need be informed of the immense advantage of a process whereby steel tubes may be cheaply produced of any length, and without seam. The applications of tubes are numberless, and for nearly every purpose where they are required steel is altogether preferable to any other material. The extent of tubing employed for gas piping, boiler-tubes, gun-barrels, surface-condensers, heating-pipes, water-pipes, &c., is enormous, and for most, if not all, of these steel is naturally better adapted than brass, copper, or iron. We are unable, as yet, to go into the commercial consideration of the improvement, but we are disposed to believe that the cost of drawing tubes will not prove an insuperable obstacle to their extended use.

For those who like to have a reason for an apparent phenomenon (which steel drawing undoubtedly is), it may be as well to remember that, upon the theory of ultimate and independent atoms of matter, cohesion is a result of a natural force of attraction between the particles of matter, and that this force is only effectively exercised when the particles are in close proximity to each other, almost, we may suppose, in atomic contact. Now, in exerting a tensile breaking strain upon a bar of iron or steel, the atoms are pulled asunder in a plane at right-angles, or practically so, to the line of strain. But if, while a high strain is being applied in the direction of the length of the bar, it is also compressed, as it must be in passing through a die, it is evident that the separation of two previously contiguous particles is attended with the intrusion of a neighbouring particle between them. As the size of the ultimate atoms cannot be supposed to be varied, we may consider the thickness of the original bar to be made up of innumerable layers or couches of atoms, and that, in drawing it between dies, or through rollers under great pressure, the atoms in each layer are separated, while those in the next adjacent layers are brought partly between them, the effect of continued drawing or rolling being to bring two, three, or more layers into one. The arrangement in layers or definite planes is only to be supposed for illustration, as the actual arrangement of the atoms can hardly be considered to take that of planes. Upon the theory, however, that cohesion depends only upon atomic nearness—that it is manifested in virtue of an inherent property of attraction at the moment when two particles of the same kind of matter (being naturally a solid) are brought within cohesive range—it is perfectly comprehensible how steel, like gold, may be drawn or rolled out almost ad infinitum. What, upon the first announcement of the drawing of steel tubes in the cold state appeared impossible, appears, upon consideration, quite consonant with our whole knowledge of the constitution



**India Office.**

**TENDERS FOR COAL.**—The Directors of the TALARGOCH MINING COMPANY (LIMITED), DYSEARTH, near RHYL, will RECEIVE TENDERS for the SUPPLY of not less than ONE HUNDRED and FIFTY TONS WEEKLY for TWELVE MONTHS, to commence from the 1st of July next. Tenders to be addressed to the mine, by Wednesday, June 15, 1864.—For any further particulars, apply to Mr. Wm. SMITH, Sec.—Talargoch, Rhyll, May 10, 1864.

- 1.-RAILS.-DELIVERY (within one month from date of contract) of NINETY TONS of BRIDGE PATTERN RAILS, weighing 38 lbs. to the lineal yard, at Venall's siding on the Vale of Neath Railway.
- 2.-MACHINERY.-THREE SETS of SELF-ACTING INCLINE PLANE APPARATUS. One adapted for working with platform carriages, and the two others for running trams on the incline.
- 3.-THREE WEIGHBRIDGES, two to be adapted for weighing trams, and the other for weighing both broad and narrow gauge railway trucks.
- 4.-GENERAL WORKS.-Forming THREE INCLINE PLANES, and THREE-QUARTERS OF A MILE OF THE RAILWAY, ballasting and laying same, relaying railway siding, finding large sleepers, erecting tips and screens, building bridge and culverts, with other details, as per specification.

N.B.—Detailed specifications of each contract, accompanied by drawings of the machinery and bridge, also plans and sections of the inclines and tramway (price 2s. 6d.) may be obtained on and after Tuesday next, of the secretary, at the company's offices, 25, Clement's-lane, London, E.C.; also of Mr. ARTHUR O. DAVIES, the company's engineer, Llantrisant, Glamorganshire; and of Mr. JAMES LEWIS, agent, Glyncoiste, Newcastle, near Newry.

Tenders must be forwarded to the Secretary, at the company's offices, London, on or before Tuesday, the 7th day of June.

25, Clement's-lane, London, May 24, 1864.

**NEW CROW HILL MINE.—WANTED, a WATER WHEEL** 15 to 20 ft. diameter, and 4 ft. to 6 ft. breast. Full particulars, price, where, and of what material built, to be addressed to Mr. JOHN HIRSH, the secretary, St. Michael's House, St. Michael's-alley, Cornhill, London.—Dated May 26, 1864.

**WANTED, a MANAGER for a GOLD MINE in WALES**  
A practical knowledge of working in quartz is indispensable. Apply by letter stating terms and qualifications.—Address, "A. B.," Messrs. Field and Tuer, stationers, 136, Minorica, E.C.

**MINES IN GERMANY, IRON AND MANGANESE.**—SEVERAL MINES, situated near the Rhine (within three miles of Coblenz) are TO BE SOLD at once, owing to the sudden death of the proprietor. The ore is of excellent quality, and has been smelted to great advantage in Newwed, and various other places.—Further particulars may be had of CARLESS, BLAGDEN, and Co., 2 New London-street, London, E.C.

**A**N EXPERIENCED GERMAN MINING ENGINEER, who has been employed for many years as a director of mines and civil engineer in South America, is DESIROUS OF MEETING WITH EMPLOYMENT from an English company, either in an English colony or in Spanish America. He can exhibit the highest certificates as to his experience and professional ability.—Apply for information to "G. Z." MINING JOURNAL office, 26, Fleet-street, London, E.C.

**TO CAPITALISTS.**—The ADVERTISER, being in immediate want of cash, OFFERS HALF HIS INTEREST (that is, ONE SIXTH) in a VALUABLE SILVER-LEAD AND COPPER MINE, now being worked by two gentlemen and himself, for £1000. The discoveries are such that there is little doubt but that in a short time this share will be worth £10,000.—References and every particular given on application to "C. A." 28, Cornhill, London, E.C.

**TO INVENTORS AND PATENTEES.—A GENTLEMAN** having an extensive connection with manufacturers, merchants, and others would be GLAD to UNDERTAKE the SALE of INVENTIONS or PATENTED ARTICLES, on commission.—Apply to Mr. RAWLE, patent office, 14, Clare-street, Bristol N.B.—Continental and foreign agencies solicited.

**SPIEGELEISEN.—SPECIAL PIG IRON, of the VERY BEST QUALITY, £7 10s. PUDDLED STEEL, in  $\diamond$ -bars, £11 10s., f.o.b. at Hull. Samples on application. JULIUS GOLDSTEIN, Hamburg.**

**BEST MANGANESE SPIEGELEISEN DELIVERED** at ANY PORT OF THE UNITED KINGDOM.—For testimonials, and all information apply to Wm. Bird and Co., 2, Lawrence Pountney-hill, London, E.C.

**NOUVELLE MONTAGNE COMPANY.**—At the GENERAL MEETING held at Liège, the 30th April, it was resolved that a DIVIDEND of THIRTY FRANCS PER ACTION should be DEBITED to the account of the shareholder next, against the coupon No. 11, for whole shares; and a DIVIDEND of SIX FRANCS against coupons, Nos. 11, 12, 13, and 14, of each fifth of shares. The payments will be made at Verriers, by Mr. IWAN SIMONIS; Paris, by Mr. ROUGEMONT DE LOVENBERG; London, Messrs. C. DRYGAL and Co.; Bruxelles, Messrs. MATTHEUS and Co.; and at GENEVA, M. NAGELMA. The AGENTS of the company are:—  
LONDON, J. B. COUHY, The Director-General de la Société.  
Engls, le 21 Mai, 1864.

**COPIAPO Extension Railway Company (PABELLO**  
AND CHANARILLO RAILWAY)—Incorporated under the law of Chile.  
Notice is hereby given, that a GENERAL MEETING of the shareholders will be  
HELD at the office of the company, No. 2, New Broad-street, on TUESDAY, the 31st  
day of May inst., at One o'clock precisely, for the purpose of receiving a report from the  
directors, and the audited accounts to the 31st December last, and for the general busi-

The directors' report and accounts may be obtained on application at the offices of the company, three days prior to the meeting. By order,  
London, May 19, 1864. EDWARD J. COLE, Sec.

**M**R. D. STICKLAND, M.E., having had upwards of 40 years mining experience in Cornwall, several years of which he has had the entire management of mines therein, enables him to GIVE GOOD ADVICE thereon.

**MINES INSPECTED and faithfully REPORTED ON. DEALER in MINING RAILWAY and OTHER SHARES.**

His monthly "Circular" for April contains a selected list of Cornish and other mines. Forwarded on receipt of six postage stamps.

88, Dowgate-hill Chambers, London, E.C.

**M**R. THOMAS CARTHEW, MINING OFFICES  
17A, SISE LANE, BUCKLESBURY, LONDON, E.C.  
Reliable information respecting mining generally can be obtained by applying as above  
Bankers: Roberts, Lubbock, and Co., 15, Lombard-street, London.

**CAPT. C. WILLIAMS, TYN-Y-WERN, TALIESIN**  
SHREWSBURY, has had upwards of 20 years' practical experience in mining during which time he had the entire management of several English and Welsh mines. Residing in the centre of the CARDIGANSHIRE MINING DISTRICT, and in close proximity to those of MERIONETHSHIRE and MONTGOMERYSHIRE, he OFFERS HIS SERVICES TO SURVEY AND REPORT UPON ANY MINE.

**CAPT. C. WILLIAMS, TYN-Y-WERN, TALIESIN**  
SHREWSBURY, has very carefully SELECTED SEVERAL LEAD, COPPER  
AND GOLD SETTS in the highly mineralised districts of CARDIGANSHIRE AND  
MERIONETH, some of which he is working privately himself, and returning out very  
satisfactorily. Mr. WILLIAMS WISHES TO MEET with a bona fide PARTY who can  
ASSIST HIM TO PROVIDE the NECESSARY MACHINERY TO RENDER the  
PRODUCE MARKETABLE.

**CAPT. WILLIAMS WANTS AN OFFER FOR FIFTY SHARES**  
In the HAVAN, and SIXTY SHARES in the CWMYSMLOG UNITED MINES  
£4 paid in the former and £5 per share in the latter. Mr. WILLIAMS recommends both  
mines as a safe investment.—Tyn-y-Wern, Taliesin, Shrewsbury, May 25, 1864.

**BRITISH AND FOREIGN STOCK, SHARE**  
AND MINING OFFICES, No. 2, WINCHESTER BUILDINGS, GREAT  
WINCHESTER STREET, LONDON, E.C.

Messrs. FULLER AND CO. continue to BUY and SELL EVERY DESCRIPTION of SHARES in BANKS, CANALS, MINES, RAILWAYS, and GOVERNMENT STOCK, either for money or account. Stock Exchange business effected upon the usual commission.

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**M**R. GEORGE HENWOOD, MINING ENGINEER  
LOCHHEAD HOUSE, LOCHWINNOCH, SCOTLAND, OFFERS his SERVICES and ADVICE on mines situated in any part of England, Scotland, Wales, Ireland, and Isle of Man, &c. Mr. Henwood's extensive experience in his peculiar department of mining science is well known, and will be exerted to the utmost for the benefit of his clients.

**SOUTH AUSTRALIA.**—CAPT. BRYANT (for 16 years second captain of the Burra Burra Mines) is PREPARED TO EXAMINE and REPORT upon any MINES or MINERAL DISCOVERIES in the ABOVE-NAMED COLONY.  
Address: Gair, Bryant, Kesteven, South Australia.

**MONEY.—CONTRACTORS and OTHERS** can be ACCOMMODATED with LOANS, DISCOUNTS, &c.—Apply to Messrs WILKINSON and Co., monetary negotiators and arbitrators, &c., 25, Birchin-lane, Cornhill, London, E.C.

[Notes from a Lecture by Prof. W. W. SMYTH, Royal School of Mines, London.]

In continuation of our subject of Ventilation, we may dismiss from consideration the sundry schemes which are from time to time brought out by ignorant people for the ventilation of collieries by pipes; it would, in fact, be a waste of time even to enumerate them. No such idea can be of any service on a large scale, and we must consider air galleries as essential, the success of the ventilation being dependent on their size. We have already mentioned the usual methods adopted for producing the current of air, and the contrivances for directing it; and we have now to look at the fashion, or plan, on which the air is to be carried round the mine workings. In the early days of colliery mining a number of pits were opened without any arrangement (as is sometimes now the case in the shallow seams of the Forest of Dean and Killarney) in all directions, the air being allowed to find its way in and about the workings as it best could, no attention whatever being paid to the general ventilation. When, however, collieries became more extensive, and the workings spread over large areas, it became necessary to force the air into those parts where the coal was being hewed, and which were most distant from the shafts. Then the fashion arose of opening large tracts of coal seam, in which nothing was left but the pillars supporting the roof, and the air was driven around the outer face of the coal being worked away. Under this system the roof commonly fell in; and from the cracks which ensued gas was continually escaping, which after a lapse of time accumulated in large quantities, and explosions were not an unfrequent result. It was under these circumstances, then, that Mr. Speddice, in 1760, introduced his plan of coursing the air round the workings in two's; thus, instead of carrying it around the face of the coal in one stream, he split the air and coursed it in two streams through the whole of the workings; by this means, in the normal state of the colliery, there would be no foul air in the mine, but such as might be retained in small recesses. Such was the plan in the days when there was a heavy royalty on coal mines, and it was customary to lay out large tracts of coal seams in pillars. The disadvantage of this system was, that as the colliery extended it became necessary to course the air great distances, in some cases even 20, 30, and 40 miles; and during the whole of this distance the air was picking up the products of combustion, and other impurities of the mine, so that by the time it issued from the mouth of the colliery it became impossible to work in the air. This method of coursing the air by two's, or three's, so common at the beginning of this century, was to a great extent replaced by the proposal of Mr. Buddle to split the air into a number of currents, each of which reached the working face of the coal in its pure state. The advantages of this idea were incalculable, for by the simple splitting of the air as it comes from the downcast into a number of currents we may easily ventilate the largest colliery. In the Hetton Colliery, for example, by this simple device of splitting the current there were 220,000 cubic feet of air passed through the mine per minute, although there were only two shafts, one acting as a downcast, the other as an upcast, and out of the latter the air issues almost smokeless. In some cases we have the air split into 10, 12, and 14 different currents, and we can but observe that the advantages of the splitting are not sufficiently appreciated by colliery owners generally. Comparing the system we have described with others, we shall appreciate its advantages. In the Risca Colliery, in Monmouthshire, so notorious for the fearful explosion of which it was the scene, the current of air was made to play along the face of the working coal in two great currents only. Again, in the Lund Hill Colliery, where there took place some time ago the most fearful explosion on record, there were only two currents of air in the mine.

To diminish the danger of colliery mining, some people propose to sink a number of contiguous shafts, others to diminish the working area of each colliery. With respect to the first of these propositions, its development is almost practically impossible; with respect to the second, it must be apparent to all that the danger from explosions lessens with the area. We have, however, in practice generally to deal with two shafts, and we find ourselves obliged to make the best use we can of them. In a great number of collieries a single, or better a double, current of air is quite sufficient to ventilate it thoroughly, and especially is this the case in the long-wall system. In carrying out the ventilation in such workings, it will, of course, be necessary to force the air in particular directions by the various means we have enumerated, always endeavouring to keep the air at one level, and to avoid the continual ascending and descending of the current which allows of the accumulation of foul air in the higher levels, in which magazines, as we may call them, of gas will be found. The system of brattice shafts, to make a single one serve the purpose of upcast and downcast, is much to be reprehended, and we would that there could be an Act of Parliament to enforce the opening of two shafts in every colliery. A wooden brattice division in a shaft is liable to be destroyed by so many influences that it ought never to be adopted. A fire in the shaft, or a slight explosion, would be sufficient to destroy the brattice and allow the after-damp to fill the colliery, and from this after-damp it is that two-thirds of all our colliers are killed in times of explosions. Our object should be, then, to avoid this after danger, and this can only be accomplished by maintaining an unbroken run of air, that cannot be interfered with by any probable accident, and into which current the men at times of explosions can safely shelter themselves, and be sure of finding fresh air.

Compled with this branch of our subject comes into play the ascensional principle of ventilation, which is worthy of some notice, as it has been made the subject of legislation in Belgium. Its object is to obtain advantage of the natural tendency of air currents to ascend as they become heated, which must almost invariably be the case in collieries from the combustion continually at play.

**STEAM AS A FUEL.**—An interesting discussion upon this subject took place at the New York Polytechnic Association, on April 24. Mr. T. D. Stetson remarked that we have instances of the practical value of burning water with other materials in the case of burning wet sugar-cane, or bagasse and wet tan-bark and wet sawdust, in a furnace especially adapted to that purpose. In these cases the water performs the simple function of changing the mechanical character of the fuel. So also in the case of burning wet ashes. Now, these are cases where the burning of water sufficient to establish the fact, and the utility arising from this mode is considered was mainly due to the mechanical effect produced by the water in the stirring and boiling of the masses. We may also consider the subject of decomposing water when water is boiled we make steam, and if the steam is again and further heated, we have "superheated;" but simply heating the water does not decompose it into its original elements. This can, however, be done by passing steam through a red-hot iron pipe, when the oxygen of the water will unite with the iron, and the hydrogen of the water will be set free. If the steam is passed through heated carbon, in the shape of "burning gas," there is no doubt that it aids combustion, and the theory of it is this: the hot bed of coals does not get air or oxygen enough to burn well; now, the oxygen of the steam unites with the carbon and produces a little better combustion, and the whole system resolves itself thus: If it requires the same amount of heat to decompose water as can ever be got from it when decomposed, it is certainly cheaper to use heat first without resorting to the decomposing process.—Mr. Bartlett endeavoured to make the subject clearly perceptible by the use of small blocks of wood as symbols of the chemical elements of the various substances used as fuel. He explained the combinations of these elements, and then after combustion, and concluded by saying that it is clearly demonstrated by repeated experiments that it is just as easy to get heat from steam-water as it is possible to get from it by burning the two elements of which it is composed. Therefore, the use of water or steam in a furnace produces a loss of heat.—Mr. Bassett, of Salem, Mass., stated that at Providence, R.I., are 12 retorts heated by using superheated steam in connection with ordinary fuel, by which a great saving was effected. The fire-box was filled to the top with coal, and the steam was passed through the sides of the fire-box lined with fire-clay into the coal.—Mr. J. Wyatt Reid enquired whether the forcing hot steam lined with fire-clay into the coal was carried to the centre of the fire.—Mr. Dibben said there was no doubt an economy in the use of steam in a furnace in one way, and that is by preventing iron from burning up. For instance, in burning anthracite coal on iron grate bars, if steam is sent up through the bars into the fire-box, the intense heat is taken away, and the destruction of the iron is prevented. This is done in some places by the Hudson River Railroad Company. The steam has also the effect of cleaning the grate through the fire, and there was a more intense heat produced in particular parts of the furnace, the flue, and the chimney.

**PROVISIONAL PROTECTION** for six months has been granted for the following—  
J. LLOYD, Shropshire, engineer to the Lilleshall Iron Company.—Improvements in puddling iron. April 8. [in apparatus employed therein. April 27.  
B. F. BRUEL, Belgium, chemist.—Improvements in treating titanite iron sands, and  
W. C. CAMBRIDGE, St. Philip's Ironworks, Bristol.—Improvements in the manufacture of iron. April 29.

of iron. April 25. — Improvements in machinery or apparatus for obtaining and applying steam power, applicable to propelling ships and vessels, raising water, and other useful purposes. April 29.

F. S. BARKER, Middlesex. — Improvements in the construction of pumps. April 30.

E. K. NEWBY, Leicester. — Improvements in the manufacture of iron and steel. May 1.

B. HAMMERTON, Lancaster. — Improvements in miners' safety-lamps. May 4.

J. SHORTRIDGE, York. — Improvements in the manufacture of iron. May 6.

J. H. POOLE, Salep, and J. ASTBURY, Hadley. — Improvements in puddling furnaces. May 6.

M. MORGANS, Somerset. — Improvements in blast-furnaces. May 10. [May 6.]

LETTERS PATENT HAVE BEEN ISSUED FOR THE FOLLOWING:—

J. CLAYTON, Wolverhampton, Stafford. — Improvements in reverberatory and other furnaces for heating and melting iron and steel, and for other like purposes. March 10.

G. BARKER, Lancaster. — Improvements in the construction of syphons for taking off liquid, for clearing, overflow of rivers, and other like purposes. Nov. 14. [Nov. 19.]

J. KIRK, Lancaster. — Improvements in the insertion of certain ores of iron into the blast-furnace. Nov. 14.

W. WILLIAMS, Lancaster. — Improvements in machinery for making bricks and other like articles. Nov. 21.

LIST OF SPECIFICATIONS published during the week :—  
Furnace for roasting pyrites, 1s. 4d.; blasting rocks, &c., 6d.; manufacture of stiles, 4d.; manufacture of iron and steel, 10d.  
L. DE FONTAINEMOREAU.

**NEW BLASTING-POWDER.**—Dr. Field, of Wilmington, Delaware, has invented an improved powder for blasting and other purposes, the chief peculiarity of which consists in its being made up in two separate ingredients, one black and one white, which are mixed upon the spot just before using. The ingredients are non-combustible when separate, but highly explosive when mixed in equal proportions. The power placed in a hole 4 feet deep, put in and tamped in the usual way, was said to be twice as powerful as ordinary gunpowder. The new powder can be manufactured very cheaply and made of various strengths, according to the purpose for which it is to be used. No expensive machinery is needed, and this simplicity of the means of manufacture is the cause of its great cheapness. The gases are said to be less noxious than those from ordinary gunpowder, and damping the separate ingredients does not injure them, if dry when mixed, so that the powder would be invaluable in mines, and for general blasting purposes.

**FIRE-DAMP.**—M. Geiraud communicated to the Paris Academy of Sciences a method imagined by him for preventing the terrible consequences of explosions by fire-damp, or, at least, for reducing them to mere pecuniary damage, without loss of life. His plan is to determine explosions by means of the electric induction spark of Ruhmkorff's machine before the miners descend into the galleries. After describing the way in which the wires ought to be arranged, he says: "Every day, before the miners go to their work, several sparks must be let off in the galleries, then if an explosion ensues the gas will be destroyed and, if not, the entrance after several sparks there is no explosion, there is no reason why there should be with an ordinary lamp." The perpetual secretary remarked that a similar practice had long been in use, though not with the induction spark, men being sent down into the galleries with lights fixed to long poles. They creep along, holding the lights aloft, because fire-damp always accumulates at the roof of the gallery, and thus produces explosions, which are harmless in proportion to the frequency with which the operation is performed.

**SMOKE CONSUMING IN YORKSHIRE.**—We have been much pleased to find that a hint in reference to smoke consuming, promulgated some 12 months since in the columns of this Journal, has been accepted and vigorously acted upon in Yorkshire. Messrs. Whitworth and Wrigley, of Mill House, near Halifax, have after a long course of experiments, in the prosecution of which they were spiritedly assisted by Mr. Rawson, one of the magistrates of the district, succeeded in effecting very great improvements in the application to steam-boilers of Juckes' self-acting furnace. We say in the application of the contrivance, because the two first-named gentlemen have found, as we predicted it would be found, that, in the principle, the arrangement, and in the details of the Juckes' furnace it is next to impossible to make any improvement. It was stated, on the occasion of our previous reference to this subject, that the endless chain system, as adopted in the original patent of Juckes, was at once the surest and the most economical for the purpose of smoke consuming which had hitherto been devised. Messrs. Whitworth and Wrigley have, in accordance with this view, wisely devoted their attention to the settling of the boiler, so that the furnaces were to be applied. They have taken especial care that the flues, leading from the furnace to the distal end, instead of being straight, be curved, so as to augment the evaporating power in the boiler, and ensuring its greater durability. A jet of steam is made to play upon the under side of the fire-bars, intended to increase the draft, and lessen the liability of the bars to burn.

And, as minor alterations have been made as regards the disposition of the boiler, and the result of all is that the consumption of fuel is minimised, while that of the smoke is made perfect. It has been too much the practice in the manufacturing districts to neglect inventions of this kind. It is preferred to submit to all manner of inconveniences and to force boilers beyond their capabilities of safe action; but now that they have among them a contrivance which will ensure the best possible effects being obtained from boilers without risk, and are sure that in complying with sanitary requirements they may also save money, there is little excuse to be made for their non-employment of the Jukes' furnace. We believe that Messrs. Whitworth and Wrigley purpose patenting their improved modes of boiler-setting, and it is to be hoped that their labours in the direction named may be as successful in a pecuniary as they are in a scientific and practical sense. The Jukes' furnace *per se* is a lapsed patent, and, therefore, may be constructed by any person who chooses to undertake its manufacture. When its use shall become widely extended, we do not doubt that it will—in the same manner as the Jukes' furnace—in the engineering industry, we are confident that not only manufacturers, but the public generally, will thank us for having suggested the introduction of so excellent an appliance. At the extensive dye-works of Rawson and Co., at Mill House, all the boilers have been fitted with Jukes' furnaces, and the results are of the most gratifying kind in every respect.—*Mechanics' Magazine.*

THE CLEVELAND IRON TRADE.—It is worthy of remark that there are no furnaces out of blast excepting at Consett. There are 17 places, with 63 furnaces in all, and for above a month the whole of those furnaces have been in blast, and for a considerable period anterior only one furnace was out of blast, it being under repair. It is a very unusual state of things, and may not occur again for a great number of years. The furnaces of this district have not been long established that anything very near to a correct approximation of the life of a furnace can be given; but it is probable that, quite irrespective of and apart from the time a furnace ought to be out for commercial purposes—i.e., lack of remunerative prices in particular—each furnace will be out of blast 1-12th of its time for repairs solely. It is certain, therefore, that the ironmasters of this district are doing well, by the fact of all the furnaces being kept in blast; and in the next place, instead of having 1-12th, or (say) 5 out of the 63, out of blast for repairs, that during the last two or three years the opportunity has been afforded of having 1-12th of the total number of furnaces out of blast previous to the present were just before the panic of 1857, when 55 furnaces were in blast out of 62; and the spring of 1859 preceding the Italian war, when 59 furnaces were in blast out of 67 in all. The furnaces are now subjected to greater heat than they were a few years ago. It would appear that fire-brick makers have found out the means of making bricks better fitted to stand the greater heat, and there is no doubt that a considerable improvement, and one of some value to those concerned, has arisen in this respect. But it is exceedingly fortunate for our iron trade, and is the key to its present prosperity, that a great amount of enterprise on the part of the ironmasters has induced the discovery of some things essential, and improvement in others, that Cleveland has lately made progress, and is certain soon to distance its competitors. The prices of Cleveland iron are, No. 2, 55s.; No. 3, 54s.; No. 4, 53s.; mottled, 53s.; white, 52s.—four months' bill. The foundation stone of the Middleton Iron Company's works at Fighting Cocks was laid on Wednesday. There are to be two furnaces erected of large capacity, capable of turning out 700 tons per week, and it is expected they will be completed in January next. We understand that steps are being taken for immediately making arrangements to form a line of railway to the Forest of Limestone Quarries, the property of Mr. John Michell, for the purpose of introducing the stone into the Cleveland district. The quarries are only 1½ miles from Darlington while the nearest quarries in Weardale are about 24 miles. A saving of 4s will therefore, be effected on all limestone sent from Forest to Darlington, Stockton, Middlesbrough, &c. The price of the stone is 10s. per load. The stone will be sold by the ironmasters, and will become the lessees of the royalty, and thus participate in the profits realised in working the quarries under a company formed upon the Limited Liability Principle.—*Darlington and Stockton Times.*

**TRAMWAYS ON ROADS.**—A new scheme, which is receiving considerable attention, has been suggested by Mr. R. Clime, C.E., of Scarborough, to lay down a tramway (convertible at any time into a locomotive line) over part of the route of the rejected Scarborough, Whitby, and Stathes Railway of the present session. Mr. Clime proposes to use the old road from Scarborough to Cloughton upon which to lay the rails (narrow gauge), the trains to be drawn by horses. Farms, manufactory, quarries &c., are to be supplied with sidings, and the usual course of country traffic is to be unimpeded. The proposed line would be under five miles long, and the probable cost of construction, including stations, rolling stock, right of way, compensation, horses, and engineering contingencies, is laid at 13,000*sterling*. The rate of traveling is put at eight miles an hour, and the works might be completed in four months. At a passenger charge of 1*penny* for the first 1*penny* 3*d.* per mile, it is alleged the traffic would be sufficient to yield a surplus of 10*penny* per mile.

**SOUTH FOXDALE.**—This mine, we understand, is in a most prosperous state, and bids fair to turn out one of the most successful mining adventures on the Island. A few days ago a cargo of rich silver-lead ore and blende was shipped at Port St. Mary to Messrs. Walker, Parker, and Co., Dee Bank, Chester, who had purchased it. It is the opinion of practical men that the prospects and appearance of this mine cannot be surpassed in any mining district in the country. Preparations are now being vigorously carried on to erect a powerful pumping-engine, which is daily expected from Cornwall. The erection of this engine, and the entire management of the mine, is under the superintendence of Capt. M. Grose, a gentleman who has had long experience in mining matters. We heartily wish the company every success in their undertaking, and we have reason to expect that in a short time the South Foxdale Mine will class number one in the mining Dividend List.—*Isle of Man Times*, May 21.

**THE TIN STANDARD.**—No further change in the tin standard, but the metal itself can be obtained much under fixed sales. Refined, 101s. to 103s.; common 98s. to 99s.—*West Briton*.

**IRON TRADE.—WANTED, a SALESMAN and TRAVELLER** for a **LARGE IRON COMPANY.** Only those possessing great experience in this business need apply.—Address full particulars to **H. J. E. D. 274, Carey-street E.C.**



# **PRELIMINARY NOTICE.** **TOLCARNE FREEHOLD SILVER-LEAD MINING COMPANY.**

To be incorporated under the Companies Act, 1862.  
 Capital £2500, in 500 shares of £5 each.  
 Deposit on application £2 10s. per share, and £7 10s. on allotment.  
**BANKERS.**  
 The Metropolitan and Provincial Banking Company (Limited), Cornhill, London.  
 Robert Ward Stockpole, Esq., Finner's Hall, Old Broad-street.  
 Messrs. Reynolds and Co., 5, Bishopsgate-street Within, in the City of London.

This company is formed as a preliminary step to the formation of a limited liability company, by which the present shareholders will be entitled to shares in the proposed company equal to nearly 50 per cent. profit.  
 The advantages to be derived by the present holders of shares will not only secure them a large profit, but also secure them a freehold interest to the extent of their shares.  
 Full particulars may be obtained, and applications for shares made, accompanied by the deposit of £2 10s. per share, at the bankers, solicitors, and of Messrs. Reynolds and Co., 5, Bishopsgate-street, London.

**NOTICE.**—NO FURTHER APPLICATIONS will be RECEIVED after the 1st of June, when the first applicants will receive a priority in the allotment.  
 REYNOLDS AND CO., Agents.

# **THE ROARING WATER MINING COMPANY (LIMITED).** Incorporated pursuant to the Companies Act, 1862.

Capital £18,000, in 6000 shares of £3 each.  
 10s. to be paid on application, and 10s. on allotment.  
**DIRECTORS.**  
 Sir JAMES DOMBRAIN, 20, Molesworth-street, Dublin. [Company].  
 Col. BUSH, 55, York-terrace, Regent's Park (Director of the Quebrada Land and Mining Company).  
 CHARLES T. HAWKINS, 12, Broad-street, Oxford. } Directors of the St. Just United  
 WM. OGILVIE, 1, Angel-court, Throgmorton-street. } Mining Company (Limited).  
 HENRY CHURCHILL, Deddington, Oxfordshire.

This company has now been in existence for twelve months, and from the great success that has attended its development during that period, it has been determined by resolution at the general meeting, held on the 23rd day of March, 1864, to issue the remaining 1800 unallotted shares. Applications will, therefore, be received in the usual form.  
 This property is situated in the barony of West Carberry, county of Cork, a district well known among mineralogists as being rich in mineral deposits. The site extends over 1½ mile in length, and three quarters of a mile in breadth, and is held for a term of 31 years, at a royalty of 1-18th, with a clause for renewal for the same term.  
 The first trials upon this property were made by the Rev. Dr. Trail, of Schull, who lost his life during the famine fever; he expended some thousands upon the mine, and tested some of the valuable lodes that have been opened upon during the past year, and found to contain rich purple and yellow copper ores, silver, malachite, and strong traces of gold. These lodes are the same as run through the parishes of Ballydehob and Schull, and are being worked upon with great success in the Cappagh and Ballycummisk Mines; and the general opinion prevails that they are the same lodes as the Berehaven Mines, which have been returning for many years £50,000 per annum.  
 There are 13 lodes upon this site, and the result of the past year's workings has been to develop three of them. The captain in one of his reports states, as to Grady's lode—"I am very glad to inform you that for many years I have not seen a richer lode than is laid open here; the ore is of a peculiar character, which is rather difficult to describe—however, I send by this mail a sample of it, which will speak for itself, and I should recommend an assay of it to be made for copper and silver."  
 The assay has been made by Messrs. Johnson and Sons, the Government assayers, and found to contain 27 per cent. of fine copper, and 69 ozs. 10 dwts. of silver to the ton.  
 The later reports are equally satisfactory. The shaft at Grady's lode is sunk nearly 70 fms.; Gillman's new shaft is down 15 fms.; and the new lode will be cut from Grady's shaft in about a fortnight, which there is every reason to believe will be a very valuable one. There is about £200 worth of ore now at surface, which will be sold at Swansea; some portion of it is estimated at £40 per ton.  
 The directors recommend an early application to the London and County Bank, Lombard-street; Messrs. METRICK and GEDOR, solicitors, 4, Storey's-gate, Great George-street, Westminster; or to the manager, Mr. THOMAS COOPER SMITH, 15, Finsbury-place South, Moorgate-street, London, where any other information may be obtained, and the usual forms of application.

# **NORTH WHEAL SETON COPPER MINING COMPANY (LIMITED).**

Capital £25,000, in 1000 shares of £25 each.  
 Deposit, £2 10s. per share.  
**CHAIRMAN.**—J. T. FENTON, Esq., Stapleton House, Leeds, Colliery Owner.  
**BANKERS.**—Messrs. Beckitt and Co., Leeds.  
**SECRETARY.**—G. Simpson, 55, Albion-street, Leeds.  
**MANAGERS.**—C. and C. Thomas, Redruth, Cornwall.

This company is formed for the purpose of working the North Seton Mine, which is situated at Camborne, in Cornwall, the richest district in Europe for copper, and to the west of the celebrated Setons and Tolgus Mines, which have realised immense profits, the West Seton Mine alone having returned in one year £49,000, and still being one of the richest mines in the district.  
 Shafts have been sunk in this set, and three promising lodes discovered, two of them from 4 ft. to 5 ft. wide, and the other from 7 ft. to 8 ft. wide.  
 Applications for shares and prospectuses to be made to Mr. GEORGE SIMPSON, 55, Albion-street, Leeds.

# **SCOTTISH AND UNIVERSAL FINANCE BANK.** To be incorporated under the Limited Liability Act.

Capital £1,000,000, with power to increase to £5,000,000.  
 20,000 shares of £50 each. First issue, 10,000 shares.  
 £1 on application, £4 on allotment, and £5 in three months.  
 It is not intended to call up more than £25 per share. In the event of no allotment of shares being made the deposit money will be returned in full. If more shares are applied for than are allotted the surplus of the deposit money will be applied to the payment due on allotment.  
 Prospectuses and forms of application for shares may be obtained of the brokers, and at the offices of the company. Home, foreign, and colonial contracts.  
 Head offices London and Glasgow, with branches in Paris and New York.  
 More than half the capital being already subscribed for, the list will remain open only a few days; and, by a resolution of the board, the whole of the remaining shares will be allotted in strict order of application *pro rata*.  
 By the constitution of the association the directors are not to be paid for their services until the shareholders shall have received 7 per cent. dividend out of the profits, thus pledging their own remuneration on the success of the company.

**DIRECTORS.**  
 HENRY FREDERICK DOWNES, Esq. (Messrs. Downes and Sons), Director Public Works Credit Company.  
 HENRY HAGGARD, Esq., Director of the London and Calidonian Marine Insurance Company.  
 CYRUS LEGG, Esq., Director of the Mercantile Union Insurance Company.  
 A. ROSSELLI, Esq. (Messrs. Rosselli Brothers), merchant, Rood-lane.  
 ANGELO USIGLIO, Esq., merchant, Great Tower-street.  
 WILLIAM CROSSKILL, Esq., Beverley.  
 CHARLES WELLS, Esq., shipowner, Director of the London and Provincial Marine Insurance Company.  
 CHALMERS IZETT PATON, Esq. (Hugh Paton, 9, Princess-street, Edinburgh).  
 WILLIAM JAMES WATSON, Esq. (Messrs. Haggard and Co.).  
 J. CARALLI, Esq., merchant, London and Liverpool (Caralli Brothers, St. Petersburg and Moscow).  
 W. C. SILLAR, Esq., merchant (late of the firm of Messrs. W. C. Sillar and Co., London).  
**BANKERS.**—The Imperial Bank (Limited), Lombard-street, London.  
**BROKERS.**—Lewellin A. Crowley, Esq., 3, Copthall Chambers, London.  
 Messrs. Macallum and Sidey, Princes-street, Edinburgh.  
 J. Perry, Esq., Birmingham.  
 Messrs. Adamson and Horne, Aberdeen.  
 W. K. Jackson, Esq., Preston.  
**SOLICITORS.**—Messrs. Mayhew, 26, Carey-street, Lincoln's Inn-fields, London.  
 ADDRESSES—Charles Smith and Sons, New Broad-street, E.C.  
**TEMPORARY OFFICES.**  
 61, CORNHILL, AND 126, BISHOPSGATE STREET, LONDON.

# **ABRIDGED PROSPECTUS.**

The objects proposed to be effected by this company are—  
 1.—To receive money at call or on deposit for fixed terms, and the ordinary business of bankers.  
 2.—To grant temporary or permanent loans on approved public securities or private undertakings of undoubted merit and known solidity.  
 3.—To make advances on merchandise and dock and other warrants, on title-deeds of property in possession or reversion for any temporary purpose, on contracts for carrying out or the finishing of works, or any other securities where their safety is unquestionable, and the benefit to the company sufficiently advantageous.  
 4.—The purchase and sale of the precious metals in all their forms. The company will be enabled, by its facilities and connections, to import and export bullion, and to deal in foreign coins and bank-notes on an extensive scale.  
 5.—By means of the Paris branch it is proposed to undertake the shipment of silver to the East via Marseilles, which can be done at a considerable saving of expense and time.  
 6.—The business transacted by the issue of small bills and letters of credit for the convenience of travellers and emigrants is incredible. Remittances from America to Ireland alone amount to several millions sterling per annum. By affording the same facilities to the English, German, and French population of America it is confidently anticipated that most profitable business can be done.  
 7.—To negotiate approved foreign or inland bills, to transmit funds in specie, and in bills or otherwise, to any foreign state, and to arrange purchases or sales of any British or foreign securities at home or abroad.  
 8.—To cash coupons, and to realise or undertake the management of the dividends on loan or other securities.  
 Application for shares to be made to the secretary, at the temporary offices of the company, or the brokers.

# **SCOTTISH AND UNIVERSAL FINANCE BANK.**

Since issuing the prospectus on Thursday last arrangements have been concluded for the amalgamation of the business and connections of Messrs. Haggard and Co. (formerly Buit and Co.), 55 and 56, Cheapside, bankers and bullion merchants, who retain a large share interest in the company. One of the firm joins the board, and Mr. Henry Haggard will be the manager of the bullion and banking departments. This, the third important amalgamation already concluded, enables this company to commence operations with an established profitable connection, and a certain prospect of an early dividend.  
 Scottish and Universal Finance Bank (Limited), 61, Cornhill, and 126, Bishopsgate-street, May 12, 1864.

# **SCOTTISH AND UNIVERSAL FINANCE BANK.**

Notice is hereby given that all APPLICATIONS FOR SHARES in the above bank must be made on or before TUESDAY NEXT, the 31st inst., as the LIST will be CLOSED on that day, and the allotment made forthwith.  
 Temporary Office, 61, Cornhill, and 126, Bishopsgate-street, May 28, 1864.

# **In the Court of the Vice-Warden of the Stannaries.** **Stannaries of Cornwall.**

**IN THE MATTER OF THE COMPANIES ACT, 1862, and of the PENHANGER MINING COMPANY.**—By an order made by his Honour, the Vice-Warden of the Stannaries, in the above matter, dated the 21st day of May inst., on the petition of Henry Edgcumbe, of Liskeard, within the said Stannaries, a creditor of the said company, it was ordered that the said PENHANGER MINING COMPANY should be WOUND-UP by this Court, under the provisions of the Companies Act, 1862.  
 JOHN GILBERT CHILCOTT, of Truro  
 (Agent for Henry Cannter, of Liskeard, Solicitor for the Petitioner).  
 Dated Truro, May 21, 1864.

# **In the Court of the Vice-Warden of the Stannaries.** **Stannaries of Cornwall.**

**IN RE CUDDRA MINE.**  
**TO BE SOLD,** pursuant to an order made in a Cause Green v. Lister and Others, dated the 10th day of February last, BY PUBLIC AUCTION, at the Registrar's Office, Truro, on Wednesday, the 8th day of June next, at One o'clock in the afternoon precisely—  
 30 (6000ths) SHARES of the defendant George Lister,  
 6 (6000ths) SHARES of the defendant William Croker,  
 30 (6000ths) SHARES of the defendant Edward Hazlewood,  
 70 (6000ths) SHARES of the defendant Edward Morris,  
 25 (6000ths) SHARES of the defendant William Morton,  
 50 (6000ths) SHARES of the defendant John Webb,  
 212 (6000ths) SHARES of the defendant William Charles,  
 50 (6000ths) SHARES of the defendant Benjamin Crabb,  
 20 (6000ths) SHARES of the defendant William Henry Gray, and  
 50 (6000ths) SHARES of the defendant John Watson,  
 Of and in the said MINE.  
 HODGE, HOCKIN, AND MARRACK, Solicitors, Truro  
 (Agents for Josiah Berry, Plaintiff's Solicitor, 27, Bucklersbury, London).  
 Dated Registrar's Office, Truro, May 26, 1864.

# **In the Court of the Vice-Warden of the Stannaries.** **Stannaries of Cornwall.**

**IN RE WEST PAR CONSOLS MINE.**  
**TO BE SOLD,** pursuant to an Order made in a Cause Murchison v. Sullivan and Others, dated the 17th day of February last, BY PUBLIC AUCTION, at the Registrar's Office, Truro, on Wednesday, the 8th day of June next, at One o'clock in the afternoon—  
 50 (18,934ths) SHARES of the defendant James Sullivan,  
 100 (18,934ths) SHARES of the defendant John Burgess,  
 60 (18,934ths) SHARES of the defendant Joseph Braithwaite,  
 5 (18,934ths) SHARES of the defendant Arthur Allen,  
 20 (18,934ths) SHARES of the defendant Henry Chard,  
 50 (18,934ths) SHARES of the defendant Edward Gressell the younger,  
 440 (18,934ths) SHARES of the defendant John Watson,  
 150 (18,934ths) SHARES of the defendant Martha Walsh,  
 25 (18,934ths) SHARES of the defendant J. A. Temple,  
 290 (18,934ths) SHARES of the defendant John Robert Johnson,  
 (As Executor of Robert Spinney, deceased),  
 50 (18,934ths) SHARES of the defendant Frederick Methren,  
 25 (18,934ths) SHARES of the defendant Thomas Morris,  
 25 (18,934ths) SHARES of the defendant Edward Hutchings,  
 20 (18,934ths) SHARES of the defendant William Mitchell,  
 50 (18,934ths) SHARES of the defendant James Charles Henderson,  
 Of and in the said MINE.  
 HODGE, HOCKIN, AND MARRACK, Solicitors, Truro  
 (Agents for Messrs. Bolton and Grylls Hill, Plaintiff's Solicitors, 4, Elm-court, Temple, London).  
 Dated Registrar's Office, Truro, May 26, 1864.

# **THE VALUABLE LEASE, MACHINERY, PLANT, AND STORES OF THE CAFARATHA LEAD MINE, MONTGOMERYSHIRE.**

**MR. V. BUCKLAND WILL SELL, BY AUCTION,** at the Mart, Bartholomew-lane, London, on Tuesday, 31st of May, at Twelve o'clock, without reserve, the VALUABLE GOODWILL AND LEASE OF THE CAFARATHA LEAD MINE, situate in the parish of SHAUGH, county of DEVON. The lot comprises the justly celebrated Dyllife Mine, the productive lodes of which pass immediately into the Cafaratha ground, together with the VALUABLE MACHINERY, PLANT, STORES, BUILDINGS, AND ERECTIONS thereon.  
 It is confidently believed that a small expenditure for additional works will lead to most valuable results.  
 Particulars and conditions of sale may be had at the Auction Mart; of Mr. JOHN PAUL, Bryndulas, Llandiodis; of Messrs. JOHN TAYLOR and Sons, No. 6, Queen-street-place; and of the Auctioneer, 89, Cannon-street West, London.

# **WHEAL JULIAN MINE MACHINERY, &c.**

**MR. HENRY WILLS WILL SELL, BY PUBLIC AUCTION,** at Parker's Hotel, Plymouth, on Tuesday, the 7th day of June, 1864, at Three o'clock in the afternoon, the whole of the MACHINERY AND MATERIALS in and on the mine called WHEAL JULIAN, in the parish of SHAUGH, county of DEVON. The lot comprises ONE 18 in. ROTARY ENGINE, with 5 ton BOILER; about 50 fms. 1½ in. rods, pulleys and stands, 20 9 ft. 9 in. pumps; 1 9 in. plunger pole and bottom complete, 1 6 in. drawing lift complete, 1 6 ft. 9 in. working, 3 7 in. pumps, 1 6 ft. ditto, shaft and balance box, 20 fms. 1 in. wood rods, horse wheel, poppet heads, 50 fms. 6 in. whip rope, 15 fms. chain, 30 in. smith's bellows, anvil, vice, &c.; about 30 tons of coal, oil, grease, &c.  
 The mine is about two miles from the Plymouth station, and the lots may be seen by applying to Capt. W. EDWARDS, of Wheal Sidney, the adjoining mine, from whom, or the auctioneer, further information may be obtained.  
 The owner of the land is ready to make a new grant of the set, upon the same liberal terms as last granted, to persons approved by him, preference being given to the purchaser of the machinery.—143, Union-street, Plymouth, May 24, 1864.

# **DEVONSHIRE.** **EXTENSIVE SLATE QUARRY, AND ONE HUNDRED ACRES OF LAND.**

**MESSRS. HEATH AND SONS have received instructions** to SELL, BY AUCTION, in one or more lots, on Tuesday, the 7th of June, 1864, at Three o'clock P.M., at the Seven Stars Hotel, Totnes (unless previously disposed of by private contract), the DESIRABLE FREEHOLD ESTATE, known as WINDLADE, in the several parishes of South Pool, Stokenham, and Sherford, comprising 100 acres of arable, orchard, meadow, and pasture, with a convenient farm house, buildings, yard, and cattle sheds, together with eleven cottages and gardens, all let to respectable tenants, the rental amounting to £245.  
 Also, the WINDLADE SLATE QUARRY, renowned for the colour, size, and quality of the produce, in roofing slate and slabs (which has for several years been worked by, and is now in the hands of, the proprietor), with the engine houses, planing and sawing sheds, tank, and every convenience for the employment of from 50 to 100 men and boys, yielding in rent and profit from £1000 to £1500 per annum; and which, from the inexhaustible extent of the veins recently quarried, and running through the estate, is capable of considerable extension, at a comparatively trifling expense. The arrangement for tips and spoil heaps is ample, and at convenient levels, and the drainage is accelerated by means of an adit, which has been driven into the hill. Together with the valuable MACHINERY, PLANT, and appliances, all in good working condition (which cost several thousand pounds), including TWO POWERFUL STEAM ENGINES, capable of raising several hundred tons daily; pumps, planing, sawing, and slate making machinery of the most modern construction, trams, tramways, and all necessary gear, &c., inventories of which will be produced at the sale.  
 The above quarry is approached by good roads, about a quarter of a mile from the Frogmore Creek, a navigable arm of the Kingsbridge estuary, affording safe anchorage, and within four miles of the English Channel at Salcombe.  
 As a situation for carrying on an extensive slate business the above is unsurpassed: the certainty, also, as to quantity and quality of the vein, well known in London and other markets, and for which the demand is daily increasing; the cheapness of and facilities for transport of slate, and the importation of coals, rarely equalled; the cartage to the place of shipment not exceeding 1s. per ton; all requisite machinery being on the premises, and tramroads laid down, fit for immediate work; from 2 to 3 per cent. on the outlay being also guaranteed from the rental of land, an advantage which would render this a most eligible and safe investment for a practical enterprising capitalist, or a limited liability company.  
 For viewing, application should be made to Mr. STEPHENS, on the premises; and for printed particulars, conditions, and lithographed plans, to Thomas Turner, Esq., Carrarvon, E. C. LITTON, Esq., solicitor, Stroud; Messrs. W. and H. F. SHARP, solicitors, 92, Gresham House, Old Broad-street, London; or to HEATH and Sons, land surveyors and estate agents, Totnes, Devon.

# **By order of the Executors.** **HIGHLY DESIRABLE FREEHOLD ESTATE AND RESIDENCE, WITH VALUABLE MINERALS, VALE OF LLANGOLLEN.**

**MESSRS. WALKER AND ACKERLEY (of Liverpool) have** received instructions to SELL, BY AUCTION, on Wednesday, the 16th day of June next, at Three for Four o'clock precisely, at the Queen Hotel, Chester station, the recently erected MANSION, called ARGOED, together with about FIFTY-EIGHT ACRES OF LAND, BAILIFFS' COTTAGE, FARM BUILDINGS, &c.  
 About one-half of the estate in good arable and meadow land, the other half under ornamental plantations and fine timber.  
 The property is situated in and commands a fine view of the far-famed Vale of Llangollen, and is distant about 2½ miles from Chirk station on the Great Western Railway, 3½ miles from the market town of Llangollen, and about 8 miles from Oswestry; one of the stations on the branch railway from Ruabon to Llangollen is about a mile distant.  
 The River Dee, celebrated for its trout and salmon fishing, skirts the property for nearly a mile, and the woods and covers being in the vicinity of the Chirk Castle and Wynnstay preserves afford good shooting.  
 A VALUABLE VEIN OF LEAD AND GOLD QUARTZ runs under the land, the very promising appearance of which can now be seen, the executors having partly developed the vein for the inspection of intending purchasers.  
 The house contains large dining and drawing rooms, breakfast room, kitchens, &c., good cellars, seven bedrooms and dressing rooms, bath and water closet. Adjoining are very neat and excellent stables, with coach houses, harness room, loose box, &c. The furniture of the house, which is modern, may be had at a valuation if required, and the purchaser may enter into immediate possession.  
 For plans and further particulars, apply to the Wynnstay Arms, Oswestry; Wynnstay Arms, Wrexham; Hand Hotel, Llangollen; Queen's Hotel, Chester; Lion Hotel, Mold; Queen's Hotel, Ely; and the high road leading from Machynlleth to Llandiodis, and the high road leading from the parish of SHAUGH, county of DEVON.

# **TO COLLIERY PROPRIETORS AND OTHERS.** **SALE OF STEAM ENGINES, BOILERS, RAILWAY, PIT HEAD GEAR, WRENCHES, WAGONS, CHAINS, ROPES, AND OTHER EFFECTS.** **AT LLANFYNDYD COLLIERY, situate near COED TALON, and midway between WREXHAM and MOLD.**

**MESSRS. CHURTON AND ELPHICK** respectfully announce that they have been favoured with instructions from the proprietors (who are giving up the lease) to SELL, BY AUCTION, on Wednesday, the 29th day of June, 1864, at Eleven for Twelve o'clock most punctually, the undermentioned PLANT AND MACHINERY, comprising TWO HORIZONTAL STEAM ENGINES, with TWO 30 ft. BOILERS, pump head gear, pulleys, whinsey, about 1500 yards of iron railway, including chairs, sleepers, &c.; large quantity of underground railway, chains, ropes, timber in the round, planks and scantling, valuable weighing machine, by Pacey and Son, Liverpool, to weigh 30 tons; about 30 pit wagons, iron plates, cast metal, wire rope, about 280 yards of conducting rods, quantity of 2½, 1½, and 1 in. rope; together with a great variety of miscellaneous effects, suitable for colliery purposes.  
 N.B.—Catalogues may be had a week prior to the sale, at the offices of the auctioneers, Chester and Whitechurch.

# **TO IRONMASTERS, CAPITALISTS, AND OTHERS.** **TO BE SOLD, BY PRIVATE TREATY, TWO HUNDRED ACRES OF VALUABLE FREEHOLD LAND, WITH FARM BUILDINGS AND MANSION HOUSE,** within a short distance of the Great Western Railway station, and intersected by main line of railway. Also, the MINES and MINERALS under the same, consisting of THREE SEAMS OF IRONSTONE AND JET, and FREESTONE, the ironstone in course of working, with the usual plant and requisites, cottages, &c., and of good quality of whole affording a rare opportunity to a capitalist entering the iron trade, being well adapted for the erection of ironworks, and situate within 6 miles of Whitchy, and about 25 miles from Middlesbrough-on-Tees. Terms can be arranged.—Apply to Mr. MATTHEW SWOODON, Arundel House, Whitchy; or to Mr. JOHN MARLEY, mining and civil engineer, Darlington, for leave to inspect, plans, and other information.

# **IMPORTANT TO COAL PROPRIETORS, CAPITALISTS, AND OTHERS.** **THE OWNERS OF VALUABLE MINES OF COAL,** within and under a compact freehold estate of 150 acres, situate about three miles from the important manufacturing town of Blackburn, Lancashire, are PREPARED TO SELL the ABSOLUTE SALE OF THE COAL, or to enter into favourable arrangements for leasing the same for a term of years. Good turnpike roads intersect the estate, and the same is within very easy distance of railway and canal.—For further particulars, apply to Messrs. ROBINSON and SON, solicitors, Blackburn.

# **RICH IRON, COPPER, LEAD, AND ZINC MINES TO LET.**—The hematites, sphathos, or steel and titanium iron mines, each extent 1½ mile. Veins proven 10 to 30 ft. wide. The royalties referred to Glasgow practical ironmasters, freight only 2s. 3d. to Glasgow, and can be put on board for 1s. 6d. the copper, lead, and zinc are very rich. Like the British Copper Company's veins, belonging to Mr. Forlong, beautifully display the great value of the ores. The royalty is only 1-15th, and NO FIXED MONEY RENT ASKED.—Apply to the proprietors W. FORLONG, Esq., of Ertas, near Tarbert, Lochfyne.

# **FOR SALE, THE RIGHT TO THE PATENT OF A VALUABLE IMPROVEMENT IN VALVES AND BUCKETS FOR PUMPS, AND IN VALVES OR COCKS FOR OTHER USES.**—For particulars, apply to Mr. W. T. RAWLE, patent and mining agent, 39, Budge-street, Bristol.

# **FOR SALE, RAILWAY WAGONS.—ONE HUNDRED** 10 ton NARROW GAUGE MINERAL WAGONS, with Brown's spring buffers, and spring draw bar. The above wagons are in good running order, and are for sale to the Great Western Railway Company, with whom the present lease terminates on the 31st May. To be sold, by deferred payments if preferred by the purchaser.—Application to be made in the meantime to Mr. HENRY NUTTER, Burton House, Westminster, who will give every information respecting the same.

# **FOR SALE, 19½ in. FORCING PUMP, 14 in. LIFTING PUMP, HAND PUMPS, pumping crank, lifting screw, pit chain, and other colliery material.**—Apply to Mr. JOHN FALKER, Nallase, near Bristol.

# **ON SALE, A QUANTITY OF BITUMINOUS SHALE.** On a careful analysis this shale yielded 18 to 20 per cent. of oil, and 57 per cent. of coke. The crude oil, when distilled, yielded 55 per cent. of oil (specific gravity 0.88) and 38 per cent. of lubricating oil (specific gravity 0.870). The analytical chemist by whom these results were obtained states that he "considers these oils equal to any of the paraffine oils now made from coal or shale in this country."—Apply to Messrs. JAMES and WILLIAM PEARSON, Stalling Colliery, near Stourbridge.

# **ON SALE, A FIRST-CLASS NEW HORIZONTAL STEAM ENGINE,** has 12 in. cylinder, 2 ft. stroke, with strong link motion to valve reversing. Very suitable for a winding engine. Price, £75. Also, one same size, with governor complete. Price, £75. Other sizes proportionately low.—Apply to Isaac W. BOLTON, Ashton-under-Lyne.

# **HORIZONTAL ENGINES FOR SALE,** at very low prices.—One 12 in. cylinder, 24 in. stroke; one 12 in. cylinder, 36 in. stroke; and two 14 in. cylinders, 24 in. stroke. All ready for delivery, and may be had with or without fly-wheels.—Apply to Messrs. E. PAGE and Co., Laurence Pountney-place, Laurence Pountney-hill, Cannon-street, E.C.

# **IRON AND TIN-PLATE TRADES.—MOST ELIGIBLE SITE** with water-power, and a clear stream for tin-plate purposes. Extensive coal frontage close to railway station and siding. Coal abundant and cheap. Near Newport, Monmouthshire.—Apply to Mr. THOS. THOMAS, land agent, auctioneer, &c., South Glamorgan-shire.

# **MR. BRENTON SYMONS, MINING ENGINEER AND SURVEYOR,** can PROCURE MINING SETTS IN ANY DISTRICT IN CORNWALL OR DEVON.—18, Hatton-garden, E.C.

# **MR. BRENTON SYMONS INSPECTS AND REPORTS ON ANY MINERAL PROPERTY.** In all cases where procurable a plan will accompany his report.—18, Hatton-garden, E.C.

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#



Tavistock Ironworks, Devon.—(Established 1804.)

**GILL AND CO., ENGINEERS AND IRONFOUNDERS,**  
MANUFACTURERS OF STEAM ENGINES AND BOILERS. CHAINS OF ALL DIMENSIONS. STEEL SHOVELS TO ANY PATTERN. EVERY DESCRIPTION OF CAST AND HAMMERED IRON FOR MINING, MANUFACTURING, AND AGRICULTURAL PURPOSES.  
HAMMER MILLS. EDGE TOOL MANUFACTORY.  
FOREIGN MINES SUPPLIED ON LIBERAL TERMS.  
VARIOUS DESCRIPTIONS OF SECOND-HAND MACHINERY CONSTANTLY ON HAND.  
N.B.—AGENTS FOR TANGY'S PATENT HYDRAULIC LIFTING JACK, and WESTON'S PATENT DIFFERENTIAL PULLEY BLOCKS.

**CLAYTON, SHUTTLEWORTH, AND CO.,**  
ENGINEERS.

MANUFACTURERS OF PORTABLE AND FIXED STEAM ENGINES, MACHINERY FOR PUMPING, HOISTING, GRINDING, SAWING, &c., ENGINES FOR STEAM CULTIVATION, SELF MOVING ENGINES FOR COMMON ROADS AND AGRICULTURAL PURPOSES GENERALLY.  
STAMP END WORKS, LINCOLN; and  
78, LOMBARD STREET, LONDON.

ALSO AT  
LOWENEGASSE No. 44, LANDSTRASSE, VIENNA, and GEGENUEBER DEM BAHNHOF, PESTH.  
Descriptive, illustrated, and priced catalogues free per post.  
SPECIAL DRAWINGS WHEN REQUIRED.  
THE BEST STEAM THRASHING MACHINERY MADE.

ESTABLISHED 1800.

**EDGE AND SON,**

MANUFACTURERS OF  
**IMPROVED FLAT AND ROUND CHAINS AND WIRE ROPES,**  
FOR MINING PURPOSES.  
BOULDS, KIBBLES, BOILERS, IRON BLOCKS, and BLOCK CHAINS.  
RAILWAY COUPLINGS, HORSE TRACES, CRANE CHAINS,  
USES, and FORGINGS.  
MANUFACTORY, COALPORT, SHROPSHIRE.

Prize Medal Awarded Great Exhibition, 1851, for  
Mining Chains.

Exhibition Medal, 1862.

**WEIGHING MACHINERY,**  
CONSISTING OF  
PLATFORM WEIGHING MACHINES AND HIND'S PATENT RAIL AND ROAD WEIGHBRIDGES, overhead TRAVELLING WEIGHING CRANES AND CRABS, RAILWAY WEIGHING TURNABLES, &c.

CRANES

Of the WALL, PILLAR, PORTABLE, or TRAVELLING KINDS; and CRABS and WINCHES for STEAM or HAND POWER, &c. Also, TURNABLES, WATER COLUMNS, TANKS, and PUMPING MACHINERY, and GENERAL RAILWAY PLANT, manufactured by  
**RICHARD KITCHIN, ENGINEER AND IRONFOUNDER,**  
SCOTLAND BANK IRONWORKS, WARRINGTON.

Prize Medal Awarded Great Exhibition, 1851, and  
International Exhibition, 1862.

**PATENT SAFETY FUZE WORKS, TUCKINGMILL,**  
CORNWALL.—We beg respectfully to inform the public that since the decease of the late Mr. THOMAS DAVEY this firm has consisted of JOHN SOLOMON BICKFORD, GEORGE SMITH, FRANCIS PRYOR, SIMON DAVEY, and WILLIAM BICKFORD SMITH. It is requested that all letters may be addressed, and all cheques and drafts made payable to us, as  
BICKFORD, SMITH, AND CO.

**THE UNITY PATENT SAFETY FUZE COMPANY**  
SCORRIER, CORNWALL, SOLICIT ORDERS FOR THE DIFFERENT KINDS OF SAFETY FUZE which they are PREPARED TO SUPPLY, of SUPERIOR QUALITY, and of ANY LENGTH.

Gun Cotton Manufactory.

**MESSRS. THOMAS PRENTICE AND CO.,**  
GREAT EASTERN CHEMICAL WORKS, STOWMARKET, SUFFOLK.

This manufactory has been established for the purpose of preparing GUN COTTON, according to the Austrian process, and was opened on the 26th of January last, under the inspection of Baron Lenk. Messrs. Thomas Prentice and Co. are now able to SUPPLY GUN COTTON, in its most approved form, either for the purposes of engineering and mining, or for military and submarine explosion, and for the service of artillery, as a substitute for gunpowder.

The advantages of Baron Lenk's GUN COTTON are the following:—  
For PURPOSES OF ARTILLERY.—The same initial velocity of the projectile can be obtained by a charge of gun cotton one-fourth of the weight of gunpowder. There is no smoke from the explosion of gun cotton; it does not foul the gun, nor heat it to the injurious degree of gunpowder. There is much smaller recoil of the gun. The same initial velocity of projectile is produced, with a shorter length of barrel. In projectiles of the nature of explosive shells it breaks the shell more equally into much more numerous pieces than gunpowder. When used in shells, one-third the weight of gun cotton produces double the explosive force of gunpowder.

For CIVIL ENGINEERING AND MINING.—In driving tunnels through hard rock a charge of gun cotton of given size exerts double the explosive force of gunpowder, thus a smaller number of holes is necessary. It may be so used as, in its explosion, to reduce the rock to much smaller pieces than gunpowder, and so facilitate its removal. As gun cotton produces no smoke, the work can proceed much more rapidly, and with less injury to the health of the miners. In working coal mines the advantages of bringing down much larger quantities of material with a given charge, and the absence of smoke in the explosion, enable a much greater quantity of work to be done in a given time at a given cost. The weight of gun cotton required to produce a given effect in mining is only one-sixth part of the weight of gunpowder. In blasting rock under water the wider range and greater force of a given charge is a great element in cheapening the cost of submarine work. The peculiar local action of gun cotton, to which the effects of gunpowder show no analogy, enables the engineer to destroy and remove submarine stones and rocks, without the preliminary delay and expense of boring chambers for the charge.

For MILITARY ENGINEERING.—The facility of transport is increased, the weight of gun cotton being one-sixth that of gunpowder. The peculiar localised action of gun cotton facilitates the destruction of bridges and palisades, and every obstacle. For submarine explosion, gun cotton has the advantage of a much wider range of destructive power than gunpowder. For the same purpose gun cotton, from its lightness, has the advantage of keeping afloat the water-tight case in which it is contained, while gunpowder sinks to the bottom.

For NAVAL WARFARE.—In the batteries of ships, between decks, and in casemated forts, the absence of smoke facilitates continuous rapid firing. The absence of fouling and heating are equally advantageous for naval as for military artillery.

General Advantages.—Time, damp, and exposure do not alter the qualities of the patent gun cotton. It has already been preserved 10 years without injury or decay. It can be transported through fire without danger, simply by being wetted, and when dried in the open air it becomes as good as before. In the case of a ship, or a fortress, or a city being on fire, this quality may be of the greatest value. It is much safer than gunpowder, owing to its being manufactured in the shape of rope or yarn. It cannot escape from its package, or be spilled by accident. The patent gun cotton is entirely free from the danger of spontaneous combustion, and secures that degree of safety and certainty which, at the time of the original invention, the gun cotton of Schönbein did not possess.

Messrs. Thomas Prentice and Co. are now in a position to contract with the owners of mines, engineers, contractors, and governments for gun cotton prepared in the various forms required for their use. Mining charges will be supplied in the rope form, according to the diameters of bore required, and gun cotton match-line, as well as instructions for using it in mines, will be supplied with it.

The great advantage of gun cotton make its use in practice very much cheaper than its comparative price would appear to show; in blasting rock, for example, the rapidity and quantity of the work done, with a given expense of wages, &c., is largely in favour of gun cotton.

Messrs. Thomas Prentice and Co. are also prepared to manufacture the gun cotton, and deliver it in the form of gun cartridges, adapted to every description of ammunition; all they require for this purpose being a drawing of the gun, gunpowder cartridges, and ammunition, with the specification of weights, sizes, and initial velocities. Artillerymen who prefer to manufacture their own cartridges may make special arrangements with the patentees through Messrs. PRENTICE AND CO.  
Stowmarket, March 10, 1864.

**THE BANKING, MINING, AND JOINT-STOCK COMPANIES REVIEW,**  
A JOURNAL OF COMMERCE, TRADE AND MANUFACTURE,  
SCIENCE AND THE ARTS.

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**RAILWAYS AND MINES.**

Capitalists who seek safe and profitable investments, free from risk, should act only upon the soundest information. The market prices for the day are for the most part governed by the immediate supply and demand, and the operations of speculators, without reference to the bona fide merits of the property. Railways depend upon the traffic, expenditure, and capital accounts, the probabilities of alliance or competition with neighbouring companies, the creation of new shares, the state of the money market as affecting the renewal of debentures, and other considerations founded on data to which only those can have access who give special attention to the subject. Mines afford a wider range for profit than any other public securities. They are free from debt, have large reserves, and pay dividends bi-monthly varying from 15 to 25 per cent. per annum. Instances frequently occur of young mines rising in value 400 or 500 per cent. But this class of security, more than any other, should be purchased only upon the most reliable information. The undersigned devote special attention to railways and mines, afford every information to capitalists, and effect purchases and sales upon the best possible terms. Thirty years' experience in mining pursuits justifies us in offering our advice to the uninitiated in seeking for mines for investment; we will, therefore, forward, upon receipt of Post-office order for 5s., the names of six dividend and six progressive companies that will, in our opinion, well repay capitalists for money employed.  
Messrs. TREDNICK AND CO., STOCK AND SHAREBROKERS, and DEALERS IN BRITISH MINING SHARES, 78, LOMBARD STREET, E.C.

**THE NEWCASTLE CHRONICLE AND NORTHERN**

COUNTIES ADVERTISER. (ESTABLISHED 1764).

Published every Saturday, price 2d., or quarterly 2s. 2d.

**THE DAILY CHRONICLE AND NORTHERN COUNTIES ADVERTISER.**

Published every morning, price 1d.  
Offices, 42, Grey-street, Newcastle-upon-Tyne; 50, Howard-street, North Shields; 195, High-street, Sunderland.

**READ THE NEW MEDICAL GUIDE,** written by a Physician, for the Self Cure of Nervousness, Indigestion, Loss of Memory, Dimness of Sight, Lassitude, &c. This work is illustrated with hundreds of cases and testimonials from patients, showing the treatment by which they were cured. Free by post to any address, on receipt of a stamped directed envelope.—Address to Messrs. SMITH, 8, Burton-on-Wendover, Tavistock-square, London, W.C.

**NICHOLLS, WILLIAMS, AND CO., ENGINEERS,**

REDFORD IRONWORKS, TAVISTOCK.  
MANUFACTURERS OF STEAM ENGINES OF EVERY DESCRIPTION, made on the BEST and NEWEST PRINCIPLES. We beg most especially to call the attention of the public to the manufacture of our BOILERS, which have been erected by most of our leading engineers. PUMP WORK CASTINGS OF EVERY DESCRIPTION, both of brass and iron. HAMMERED IRON and HEAVY SHAFTS OF ANY SIZE. CHAINS made of the best iron, and warranted. RAILWAY WORK OF EVERY DESCRIPTION.

ALL ORDERS FOR ABROAD RECEIVE THEIR BEST ATTENTION. NICHOLLS, WILLIAMS, and Co. have had 20 years' experience in supplying machinery to foreign mines, and selecting experienced workmen to erect the same, where required.  
Messrs. NICHOLLS, WILLIAMS, and Co. have always a LARGE STOCK OF SECOND-HAND MINE MATERIALS in stock, and at moderate prices.

**MESSRS. W. DERRY AND CO., MINING MATERIAL**  
MERCHANTS, ST. AUGUSTINE, respectfully inform the mining public that they have constantly ON SALE EVERY DESCRIPTION OF MINING PLANT, in PITWORK, DRESSING APPLIANCES, &c., and STEAM ENGINES, as follows:—  
ONE 50 in. cylinder PUMPING. ONE 26 in. ditto ROTARY.  
ONE 45 in. ditto ditto TWO 25 in. ditto ditto  
ONE 40 in. ditto ditto ONE 20 in. ditto PUMPING.  
ONE 30 in. ditto ditto  
ONE 10 horse power PORTABLE HIGH PRESSURE ENGINE.

Applications to be addressed as above, or to the engineer of the company, Mr. W. H. GRAY, St. Austell.

**FRANCIS HOLCROFT, CONSULTING AND MECHANICAL**  
ENGINEER AND VALUER, UNDERTAKES DESIGNS FOR, and the SUPERINTENDENCE OF THE EXECUTION OF, ALL KINDS OF ENGINES and MACHINERY FOR COLLIERIES, BLAST FURNACES, FORGES, MILLS, and OTHER PURPOSES GENERALLY, and will also undertake the supervision of work in this country for abroad if required.—Wellington-road, Bilston, Staffordshire.

**RAILWAY CARRIAGE COMPANY (LIMITED),**  
ESTABLISHED 1847.

OLD BURY WORKS, NEAR BIRMINGHAM.  
MANUFACTURERS OF RAILWAY CARRIAGES AND WAGONS, and EVERY DESCRIPTION OF IRONWORK.

Passenger carriages and wagons built, either for cash or for payment over a period of years.  
RAILWAY WAGONS FOR HIRE.  
CHIEF OFFICES,—OLD BURY WORKS, NEAR BIRMINGHAM.  
LONDON OFFICES,—6, STOREY'S GATE, GREAT GEORGE STREET, WESTMINSTER.

**THE BIRMINGHAM WAGON COMPANY (LIMITED)**  
is PREPARED TO SUPPLY RAILWAY WAGONS OF EVERY DESCRIPTION, capable of carrying 6, 8, or 10 tons, at annual rentals, or for purchase on deferred payments, on advantageous terms.  
EDMUND FOWLER, Sec.  
OFFICES,—3, NEWHALL STREET, BIRMINGHAM.

**COAL CUTTING MACHINERY.**  
THE WEST ARDSLEY COMPANY having, by recently patented improvements, perfected their coal cutting machinery, worked by compressed air, are NOW READY TO MAKE CONTRACTS FOR THE CONSTRUCTION AND USE OF THEIR MACHINES. The results of twelve months' experience in the working of these machines, by the West Ardsley Company, have proved most satisfactory, their use being found to CHEAPEEN the COST and IMPROVE the average SIZE of the COAL, to LIGHTEN the LABOUR, and also to MODIFY the SEASONARY CONDITION of the MINE. All communications to be made to Messrs. FIRTH, DONISTHORPE, and BOWEN, No. 8, Britannia-street, Leeds.

**NOTICE.**—The WEST ARDSLEY COMPANY, having reason to believe that their patents are being infringed upon, hereby give notice that they will TAKE LEGAL PROCEEDINGS AGAINST ALL PARTIES who may MAKE FOR SALE, or USE ANY MACHINERY in the construction of which any such INFRINGEMENT is MADE.

**EDWARDS'S PATENT MINERAL ORE AND COAL**  
WASHING MACHINE.—This is by far the MOST ECONOMICAL, as well as the MOST PERFECT MACHINE MADE. Each machine is capable of washing 25 to 50 tons per diem, according to quality.—Full particulars, testimonials, &c., may be obtained from E. EDWARDS, Esq., C.E., 1, York-buildings, Adelphi, where a working model may be seen.

**FRANCIS'S PATENT COAL WASHING MACHINE.**  
This very EFFICIENT MACHINE is the SIMPLEST and CHEAPEST ever OFFERED TO THE PUBLIC.—For particulars, apply to Mr. ISAAC FRANCIS, Nant, near Wrexham.

**DANIEL COLLINGE AND SON'S PATENT**  
SPONGE CLOTHS.  
WE HAVE APPOINTED Mr. ELLIS LEVER, of this city, SOLE AGENT for the SALE OF OUR PATENT SPONGE CLOTHS in the MINING DISTRICTS of GREAT BRITAIN.  
Manchester, March 5, 1864.

I shall be glad to SUPPLY SAMPLES and PRICES OF DANIEL COLLINGE AND SON'S PATENT SPONGE CLOTHS, which are a VALUABLE SUBSTITUTE FOR COTTON WASTE in the CLEANING OF ENGINES and MACHINERY.  
23, MARSDEN-SQUARE, MANCHESTER.  
ELLIS LEVER.

Adopted by the Governments of Great Britain, Spain, Denmark, Russia, Brazil, East and West Indies.

**EASTON'S PATENT BOILER FLUID,**  
FOR REMOVING AND PREVENTING  
INCORUSTATION IN STEAM BOILERS, LAND AND MARINE.  
P. S. EASTON AND G. SPRINGFIELD,  
Patentees and Sole Manufacturers,  
37, 38, and 39, WAPPING WALL, LONDON, E.,  
Or of their Agents in the principal towns of Great Britain and the Colonies.

**NEW COMBINED TURBINE, WINDING, AND**  
PUMPING MACHINERY,  
MANUFACTURED BY GEORGE LOW,  
MILGATE IRONWORKS, NEWARK-UPON-TRENT.

Who respectfully begs to bring the above to the notice of the mining public, as an exceedingly cheap and easy method of applying water-power for the above purposes. The TURBINE, WINDING, and PUMPING MACHINERY are all fixed complete to one strong cast-iron bed plate, which can be placed in any situation without pit or excavation, and any height not exceeding 33 ft. from bottom of fall, the supply and suction pipe being all that is required to be connected to it, and can be brought in any direction. This combined machine can be easily removed when necessary.

G. Low begs also to state that the TURBINE is the most efficient and the cheapest method of applying water-power for mining purposes.  
MANUFACTURER OF WINDING, PUMPING, CRUSHING, STAMPING MACHINERY, WINDING ENGINES, WATER WHEELS.

IMPROVED TURBINE WATER WHEELS CONSTRUCTED EITHER TO WORK VERTICALLY or HORIZONTALLY, and upon the MOST SCIENTIFIC and EFFECTIVE PRINCIPLE.

G. Low begs to recommend a special class of turbine adapted for extreme high falls (200 to 500 ft.), and consuming small quantity of water. This turbine will work with equal advantage without running at an excessive velocity. Also,  
MANUFACTURER OF IMPROVED BORING MACHINES FOR DRIVING ADITS.

**ASSAYS AND ANALYSES OF EVERY DESCRIPTION**  
Conducted by JOHN MITCHELL, F.C.S., M.G.A. (Established 20 years).  
Author of "Manual of Practical Assaying," "Metallurgical Papers," &c.  
All communications and samples to be addressed (free) to Mr. MITCHELL, care of Mr. P. Clay, 29, Great St. Helen's, London, E.C.

TO IRON AND COAL MASTERS, MINING AND QUARRY COMPANIES, &c.

FOR PREVENTING IRON FROM RUST, AND WOOD FROM DECAY.

**A BRILLIANT JET BLACK, SUPERIOR TO PAINT**  
in APPEARANCE, dries in less time, contains preservative qualities of the best description, and is economical in its use; one gallon, at 1s., is equal to 14 lbs. of paint, which costs 4s. For COLLIER HEAD GRADING, RAILWAY WAGONS, BOILERS, CASTINGS, CANAL BOATS, &c., it is especially adapted. In casks containing 10, 15, and 20 cwt. each. In quantities of 1 ton and upwards, price £11 per ton.

**TURPENTINE SUBSTITUTE.**

GLOVER and Co. have now on hand a really splendid painting sample of spirits of turpentine substitute, a pure crystal, not more volatile than the genuine American turpentine, and quite inoffensive to smell. Price, 2s. per gallon, in 30-gallon casks.

**PETROLEUM.**

This oil gives a pure, white, soft, and brilliant light, easily regulated, and portable. For works or public buildings, where gas is not desirable, the brilliancy and economy of the article are unequalled.

**WASTE NO OIL.**

Not liable to leak, and which economise space in the stores. From 600 gallons, 48 diameter by 84 in height, price £10 10s., down to 10 gallons, 15 diameter by 21 in height, price 15s., with EVERY VARIETY OF SIZE AND PRICE BETWEEN.

2½ galls. .. 4s. 6d. | 3 galls. .... 5s. 0d. | 3½ galls. ... 5s. 6d. | 4 galls. .... 6s. 0d.

**WAGON GREASE.**

GLOVER AND CO., No. 40, MANESTY LANE, LIVERPOOL.

**CHARLES DAVEY AND CO.,**  
SAFETY FUSE MANUFACTURERS,  
ST. HELEN'S JUNCTION, LANCAHIRE.

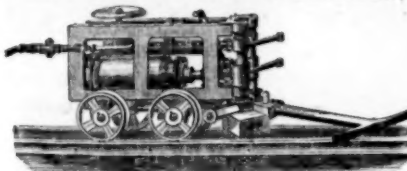
**CREASE'S PATENT EXCAVATING MACHINERY,**  
FOR SUPERSEDING THE SLOW AND EXPENSIVE USE OF MANUAL LABOUR IN SINKING SHAFTS, DRIVING LEVELS, TUNNELLING, &c., is guaranteed to drive through any rock of average hardness at a minimum rate of 1 in. per diem, and to sink shafts at the rate of 2 fms. in three days.

Mr. CREASE will undertake contracts for sinking shafts, driving levels, &c., at an enormous reduction of time and great saving in cost.

Applications to be addressed (for the present) to the patentee, Mr. E. S. CREASE, Tavistock, Devon.

By providing the power of calculating the time and cost to explore a certain depth and extent of ground, speculation in mining will be assimilated to commercial pursuits, with this unmitigated advantage—that when the ground has been once carefully and judiciously selected, and operations properly and systematically carried on, for its development, there would be far less chance of unsatisfactory results than are met with by merchants and manufacturers in the usual routine of their business. As this important invention must beneficially interest the landowners, mine proprietors, merchants, and miners, we opine it will meet with immediate adoption.—*Mining Journal.*

COAL CUTTING BY MACHINERY.



**MESSRS. RIDLEY AND CO.** have, by recently PATENTED IMPROVEMENTS, COMPLETED THEIR TRUNK COAL CUTTING MACHINE, WORKED BY COMPRESSED AIR, and are NOW PREPARED TO NEGOCIATE for the USE, and to SUPPLY MACHINES, which will be found to COMBINE SIMPLICITY OF CONSTRUCTION with PORTABILITY and ECONOMY in WORKING. By the use of these machines a CONSIDERABLE SAVING OF COAL is EFFECTED, and the COST OF LABOUR MUCH REDUCED. Each machine will be guaranteed as to its capabilities, &c.

All applications to be made to Messrs. RIDLEY and Co., No. 11, South-street, Finsbury, London, E.C.

\* COLLIERY PROPRIETORS are CAUTIONED against PURCHASING or USING MACHINES, the construction of which will constitute an INFRINGEMENT of the ABOVE PATENT.

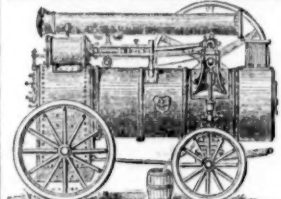
International Exhibition, 1862—Prize Medal.



**JAMES RUSSELL AND SONS**  
(the original patentees and first makers of wrought-iron tubes), of the CROWN PATENT TUBE WORKS, WEDNESBURY, STAFFORDSHIRE, have been AWARDED a PRIZE MEDAL for the "good work" displayed in their wrought-iron tubes and fittings.  
Warehouse, 81, Upper Ground-street, London, S.

Prize Medal, International Exhibition, 1862.

**RUSTON, PROCTOR, AND CO.'S CELEBRATED**  
PRIZE PORTABLE ENGINES are SPECIALLY ADAPTED FOR WINDING, PUMPING, SAWING, &c. These engines have, in public competition, won the highest honours. For ECONOMY in WORKING, LARGE ALLOWANCE OF POWER in CYLINDER AREA and PROPORTIONATE SIZE OF BOILER, STRENGTH OF CONSTRUCTION, HIGH FINISH, and GENERAL EFFICIENCY, they are unrivalled, having recently been AWARDED THIRTEEN GOLD, SILVER, and BRONZE PRIZE MEDALS, and numerous other prizes.



Messrs. A. Knowles and Sons write:—

Pendlebury Colliery, near Manchester, June 5, 1861.  
GENTLEMEN,—We beg to inform you that we have now in use the portable engine of 8 horse power you supplied us with, and have great pleasure in informing you that it works well, and we are much pleased with the workmanship and finish of it.  
We are, yours respectfully,  
ANDREW KNOWLES AND SONS.

Illustrated, descriptive, and priced catalogues may be had on application to the Shear Ironworks, Lincoln.

**MESSRS. KNOWLES AND BUXTON, CHESTERFIELD.**  
MANUFACTURERS OF PATENT TUBULAR TUYERES.



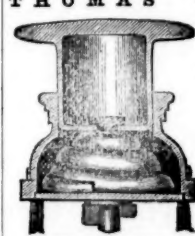
The PATENT TUBULAR TUYERE possesses GREAT ADVANTAGES over the ORDINARY TUYERES, both for its DURABILITY and EASY WORKING. A current of cold water going direct to the nozzle prevents their destruction, however much they may be exposed to the fire.

We repair them at half the first cost, making them equal in size to new ones, all parties returning them carriage paid.

No. 1 tuyere, 16 in. long	25s. each.
No. 2 " 18 " "	32s. "
No. 3 " 20 " "	36s. "
No. 4 " 22 " "	40s. "
No. 5 " 24 " "	44s. "

Delivered at Chesterfield station. Terms, nett cash quarterly.

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MANUFACTURERS OF  
CAST STEEL FOR PUNCHES, TAPS, and DIES,  
TURNING TOOLS, CHISELS, &c.  
CAST STEEL PISTON RODS, CRANK PINS, CONNECTING RODS, STRAIGHT and CRANK AXLES, SHAFTS, and  
FORGINGS OF EVERY DESCRIPTION.

DOUBLE SHEAR STEEL, FILES MARKED  
BLISTER STEEL, T. TURTON.  
SPRING STEEL, EDGE TOOLS MARKED  
GERMAN STEEL, WM. GREAVES & SON,  
Locomotive Engine, Railway Carriage and Wagon Springs and Buffers.

**SHEAF WORKS AND SPRING WORKS, SHEFFIELD.**  
LONDON WAREHOUSE,—35, QUEEN STREET, CANNON STREET, CITY, E.C.  
where the largest stock in the world may be selected from.

**CORNISH CRUCIBLE AND BLACK-LEAD POT MAKER,**  
JOHN JULEFF, FORD STREET, and PEDN-AN-DREA, REDRUTH.

**PUBLIC TEST OF WIRE-ROPE.**  
THE SUPERIOR QUALITY OF GARNOCK, BIBBY, AND CO.'S WIRE-ROPE was FULLY PROVED by a RIVAL MANUFACTURER at the LIVERPOOL PUBLIC TESTING MACHINE, on the 29th of October, 1860, on which occasion GARNOCK, BIBBY, and Co.'s ropes were found to be the STRONGEST of all the TWELVE SAMPLES from different makers then tested, as reported in the papers of the day. For example:—  
(Certified by Mr. William Macdonald, superintendent.)

Garnock, Bibby, and Co.	Corresponding samples from other manufacturers.
Sizes. Tons c.	Tons c.
2½ in. .... 18 5	16 10
2 in. .... 8 15	7 15

Remaining sizes with similar results.  
\* Samples taken promiscuously from stock by a rival manufacturer's agent.

GARNOCK, BIBBY, AND CO.,

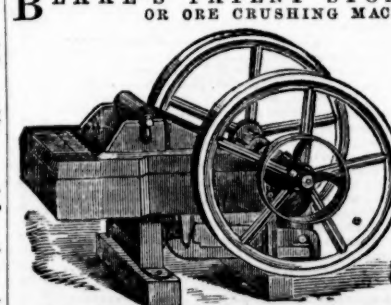
SWAN HEMP AND WIRE ROPE MANUFACTURERS,

LIVERPOOL.

FLAT and ROUND STEEL and IRON WIRE ROPES FOR MINES, &c., of SUPERIOR QUALITY.

**BLAKE'S PATENT STONE BREAKER,**

OR ORE CRUSHING MACHINE.



FOR REDUCING TO  
SMALL FRAGMENTS  
ROCKS, ORES,  
AND MINERALS OF  
EVERY KIND.

It is rapidly making its way to all parts of the globe, being now in profitable use in California, Washoe, Lake Superior, Australia, Cuba, Chili, Brazil, and throughout the United States & England.

Read extracts of testimonials:—

Alkali Works, near Wednesbury.—I at first thought the outlay too much for so simple an article, but now think it money well spent.  
WILLIAM HUNT.

Welsh Gold Mining Company, Dolgelly.—The stone breaker does its work admirably, crushing the hardest stones and quartz.  
WM. DANIEL.

Our 15 by 7 in. machine has broken 4 tons of hard winstone in 20 minutes, for 500 road metal, free from dust.  
Messrs. OUD and MADDOCK,  
Stone and Lime Merchants, Darlington.

Kirkless Hall, near Wigan.—Each of my machines breaks from 100 to 120 tons of limestone or ore per day (10 hours), at a saving of 4d. per ton.  
JOHN LANCASTER.

Oreoca, Ireland.—My crusher does its work most satisfactorily. It will break 10 tons of the hardest copper ore stone per hour.  
WM. G. ROBERTS.

General Frémont's Mines, California.—The 15 by 7 in. machine effects a saving of the labour of about 30 men, or \$75 per day. The high estimation in which we hold your invention is shown by the fact that Mr. Park has just ordered a third machine for this estate.  
SILAS WILLIAMS.

For circulars and testimonials, apply to—

**H. R. MARSDEN, SOHO FOUNDRY,**  
MEADOW LANE, LEEDS.  
Only maker in the United Kingdom.



## THE MINING SHARE LIST

## BRITISH DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Dividends Per Share.	Last Paid.
1200	Alderley Edge (cop.), Cheshire [L.]	10 0 0	—	—	9 13 0	0 15 0—Feb. 1884
4000	Bodford United (copper), Tavistock	2 6 8	—	—	13 6 0	0 2 6—April, 1884
1248	Boscawell (tin), Cornwall	6 18 0	—	—	1 0 0	0 5 0—Feb. 1884
200	Botalack (tin), Cornwall	91 5 0	—	—	477 15 0	3 0 0—May, 1884
5000	Bronze (tin), Cornwall	2 7 6	—	—	0 16 0	0 2 6—Jan. 1884
512	Carroll (tin), Cornwall	15 7 0	—	—	7 15 0	0 10 0—May, 1884
2000	Clifford Amalgamated (cop.), Gwynne	30 0 0	—	—	81 8 6	0 10 0—April, 1884
12000	Copper Mines of England	25 0 0	—	—	7 1/2	per cent. —Half-year.
40000	Ditto	100 0 0	—	—	11 8 0	0 15 0—Mar. 1884
867	Cwm Erddin (lead), Cardiganshire [L.]	7 10 0	—	—	263 10 0	4 0 0—April, 1884
128	Cwmystwith (lead), Cardiganshire [S.E.]	60 0 0	—	—	913 0 0	12 0 0—May, 1884
124	Devon Gt. Cons. (cop.), Tavistock [S.E.]	1 0 0	—	—	756 10 0	8 0 0—April, 1884
358	Dolcoath (copper), Cornwall	128 17 6	—	—	0 18 0	0 1 6—May, 1884
12000	Drake Wagon, Calstock	2 1 0	—	—	119 0 0	2 0 0—Mar. 1884
512	East Basset (cop.), Redruth [S.E.]	29 10 0	—	—	10 5 0	2 0 0—April, 1884
6144	East Caradon (copper), St. Cleer [S.E.]	3 14 6	—	—	95 10 0	2 0 0—April, 1884
300	East Darwen (lead), Cardiganshire	32 0 0	—	—	265 10 0	7 10 0—April, 1884
128	East Pool (tin), Cornwall	24 5 0	—	—	1 10 0	0 10 0—May, 1884
1200	East Wheal Lovell (tin), Wendron	23 0 0	—	—	63 0 0	1 0 0—April, 1884
2000	Foxdale (lead), Isle of Man [L.]	25 0 0	—	—	1 4 6	0 4 0—May, 1884
12000	Frank Mills (lead), Christow	18 6 0	—	—	0 8 0	0 6 0—Mar. 1884
5000	Great Lacey (lead), Isle of Man [L.]	7 0 0	—	—	5 15 0	0 10 0—Nov. 1883
1786	Great Wheel Fortune (tin), Breage	18 0 0	—	—	2 7 6	0 10 0—Mar. 1884
5000	Great Wh. Vor (tin), Helston [S.E.]	40 0 0	—	—	5 0 0	5 0 0—Feb. 1884
119	Great Work (tin), Gernoe	100 0 0	—	—	28 0 0	15 0 0—Feb. 1884
1024	Herodfoot (tin), near Liskeard [S.E.]	8 10 0	—	—	418 10 0	3 0 0—Mar. 1884
4000	Lisburne (lead), Cardiganshire, Wales	18 10 0	—	—	2 13 0	0 1 0—April, 1884
9000	Marke Valley (copper), Caradon	4 10 6	—	—	145 18 0	10 0 0—May, 1884
12000	Miners Mining Co. [L.] (id.), Wrexham	25 0 0	—	—	16 19 7	0 12 3—Jan. 1884
2000	Mining Co. of Ireland (cop. lead, coal)	7 0 0	—	—	0 4 0	0 2 0—April, 1884
40000	Mynydd (iron ore) [L.] [S.E.]	2 10 0	—	—	0 8 0	0 2 6—April, 1884
250	Nanty Mines (lead), Montgomery	20 0 0	—	—	0 13 0	0 2 6—Feb. 1884
6000	New Birch Tor and Vetter Cons. (tin)	1 6 6	—	—	86 19 0	0 2 6—Mar. 1884
5938	North Trekerby (copper), St. Agnes	1 9 0	—	—	102 10 0	10 0 0—April, 1884
6400	Par Consols (cop.), St. Bazez [S.E.]	1 2 6	—	—	7 19 6	0 10 0—Nov. 1883
300	Parys Mines (copper), Anglesey [L.]	80 0 0	—	—	1 0 0	1 0 0—July, 1884
1772	Polberro (tin), St. Agnes	15 0 0	—	—	73 0 0	1 0 0—May, 1884
612	Polberro (tin), St. Agnes	10 0 0	—	—	439 10 0	6 0 0—May, 1884
1123	Providence (tin), Uney Lelant [S.E.]	49 39 40	—	—	74 10 0	1 0 0—May, 1884
6000	Rosewall Hill and Ransom United	2 10 0	—	—	370 13 6	1 0 0—Nov. 1883
612	South Caradon (cop.), St. Cleer [S.E.]	1 6 0	—	—	490 10 0	10 0 0—May, 1884
512	South Toluca (cop.), Redruth, Cornwall	8 40 0	—	—	14 8 6	0 10 0—Mar. 1884
496	S. Wh. Frances (cop.), Illogan [S.E.]	18 18 9	—	—	2 6 6	1 10 0—Mar. 1884
4000	St. Day United (tin), Redruth	14 0 0	—	—	25 2 6	—
840	St. Ives Consols (tin), St. Ives	8 0 0	—	—	19 18 19	—
6000	Tincroft (tin), St. Agnes	9 0 0	—	—	2 5 0	1 10 0—Mar. 1884
4200	Vigra and Clogau (copper), Illogan	1 10 0	—	—	2 5 0	0 15 0—April, 1884
3000	W. Chiverton (id.), Perranarabuthol [S.E.]	—	—	—	49 10 0	1 0 0—May, 1884
256	West Damsel (copper), Gwennap	38 10 0	—	—	405 0 0	4 0 0—April, 1884
400	W. Wh. Seton (cop.), Camborne [S.E.]	47 10 0	—	—	698 10 0	1 10 0—Oct. 1884
512	Wheal Basset (copper), Illogan [S.E.]	6 2 6	—	—	3 0 0	0 10 0—Oct. 1884
1200	Wheal Basset and Grylls (tin)	7 0 0	—	—	20 10 0	5 0 0—April, 1884
1024	Wheal Friendship (copper), Devon	2 4 0	—	—	0 3 0	1 0 0—Sept. 1883
1024	Wheal Grylls (tin), Perranarabuthol	2 4 0	—	—	14 10 0	0 10 0—May, 1884
612	Wheal Jane (silver-lead), Ken	3 10 0	—	—	1 13 6	0 6 0—April, 1884
4295	Wheal Kitty (tin), St. Agnes	5 4 6	—	—	9 15 0	7 6 0—April, 1884
1024	Wheal Kitty (tin), Uney Lelant [S.E.]	2 0 0	—	—	76 5 0	1 0 0—May, 1884
896	Wh. Margaret (tin), Uney Lelant [S.E.]	9 17 6	—	—	57 17 6	0 10 0—Mar. 1884
1024	Wh. Mary Ann (id.), Menheniot [S.E.]	8 0 0	—	—	343 8 0	5 0 0—May, 1884
60	Wheal Owles (tin), St. Just, Cornwall	70 0 0	—	—	170 15 0	4 0 0—April, 1884
1040	Wh. Trevelyan (id.), Liskeard [S.E.]	5 17 0	—	—	49 12 6	0 12 6—May, 1884
2044	Wheal Tremayne (tin), Gwennap	6 11 3	—	—	0 15 0	0 5 0—Nov. 1883
7000	Wicklow (copper), Illogan	2 10 0	—	—	11 11 0	0 6 0—April, 1884

\* Dividends paid every two months. † Dividends paid every three months.

## BRITISH MINES WITH DIVIDENDS IN ABEYANCE.

240	Boscan (tin), St. Just	20 10 0	—	—	36 10 0	1 0 0—Mar. 1882
1800	Carn Brea (copper), Illogan	15 0 0	—	—	278 10 0	2 0 0—Feb. 1882
3000	Chiverton (lead), Perranarabuthol [S.E.]	5 0 0	—	—	85 0 0	2 0 0—June, 1882
296	Condurow (cop.), Camborne	35 0 0	—	—	7 0 0	7 0 0—Mar. 1882
2450	Cook's Kitchen (copper), Illogan	17 15 9	—	—	2 7 0	—
1024	Copper Hill (copper), Redruth	12 0 0	—	—	7 12 0	0 4 0—July, 1882
1055	Cradock Moor (copper), St. Cleer	8 0 0	—	—	147 0 0	5 0 0—June, 1882
280	Derwent Mines (sil.-lead), Durham	300 0 0	—	—	0 10 0	0 2 6—Jan. 1883
4076	Devon and Cornwall (cop.), Tavistock	6 8 3	—	—	0 17 6	0 2 6—Jan. 1883
3075	Frynewm (lead), Wales	12 6 6	—	—	41 9 0	0 2 6—Jan. 1880
940	Furze Consols (copper), Tyndreath	0 0 0	—	—	7 18 6	0 5 0—Dec. 1881
5000	Great South Toluca [S.E.] Redruth	0 14 6	—	—	0 8 0	0 1 6—Mar. 1882
10240	Gunn's Lake (Clitters' Adit)	0 2 0	—	—	1091 0 0	5 0 0—May, 1880
160	Levant (copper), St. Just	2 10 0	—	—	18 18 1	0 7 6—Aug. 1882
640	Moss Pleasant (lead), Mold	4 0 0	—	—	0 10 4	0 8 0—Mar. 1882
5000	Orehead (lead), Flintshire	0 0 0	—	—	0 5 0	0 5 0—Dec. 1882
5000	South Exmouth (lead), Christow	1 10 0	—	—	9 18 0	1 0 0—June, 1882
380	Spearne Moor (tin), Cornwall	31 17 9	—	—	7 0 0	0 10 0—Sept. 1882
512	Treyton Consols (tin), St. Ives	12 10 0	—	—	11 0 0	2 0 0—Mar. 1882
1000	Trumpet Consols (tin), near Helston	11 10 0	—	—	—	—
12000	Twelve Apostles Amalg. (id.), Wrexham	1 0 0	—	—	8 15 0	1 0 0—Jan. 1881
1024	Wendron Consols (tin), Wendron	18 3 10	—	—	14 10 0	3 0 0—June, 1881
60	West Burton Hill (lead), Yorkshire	50 0 0	—	—	101 1 3	0 10 0—Oct. 1882
1024	West Caradon (cop.), Liskeard [S.E.]	8 0 0	—	—	0 19 0	0 3 0—May, 1882
6400	West Fowey Consols (tin and copper)	7 10 0	—	—	284 6 0	4 0 0—Mar. 1882
100	Wheal Mary (tin), Lelant	36 2 6	—	—	—	—

## FOREIGN DIVIDEND MINES.

30000	Australian (cop.), S. Australia [S.E.]	7 7 6	—	—	0 1 0	0 1 0—Dec. 1883
2464	Burra Burra (cop.), S. Australia	5 0 0	—	—	315 0 0	5 0 0—Mar. 1884
4000	Central American (silver) [L.]	5 0 0	—	—	4 6 8	0 14 10—Dec. 1883
10000	Cobre Copper Co. (cop.), Cuba [S.E.]	40 0 0	—	—	99 12 0	1 0 0—Jan. 1884
100000	Don Pedro No. Del Rey [L.] [S.E.]	0 10 0	—	—	0 0 0	0 9 0—Dec. 1883
70000	English and Australian [S.E.]	5 0 0	—	—	1 10 0	0 2 6—Feb. 1884
18000	East Indian Coal, Calcutta [S.E.]	2 0 0	—	—	7 1/2	per cent. —Yearly.
25000	Fortuna (lead), Spain [L.] [S.E.]	2 0 0	—	—	19 15 0	0 10 0—Jan. 1884
25000	Gen. Mining Assoc., Nova Scotia [S.E.]	20 0 0	—	—	0 11 0	0 1 0—Jan. 1883
60000	Kapunda Mining Co., Australia [S.E.]	1 0 0	—	—	9 11 2	0 5 0—Oct. 1883
15000	Linares (id.), Pozo Ancho, Spain [S.E.]	3 0 0	—	—	1 7 3	0 7 3—Jan. 1884
10000	Pontigbaud (sil.-lead), France [S.E.]	20 0 0	—	—	0 11 0	0 1 6—Jan. 1884
97500	Port Phillip (gold), Clunes [S.E.]	1 0 0	—	—	61 5 0	3 0 0—Dec. 1883
11000	St. John del Rey [L.] Brazil [S.E.]	15 0 0	—	—	2 14 0	0 5 0—May, 1884
42174	Unit. Mexican (gold), Mexico [S.E.]	5 0 0	—	—	0 5 0	0 5 0—Oct. 1883
10000	Vancouver (coal) [L.] [S.E.]	2 0 0	—	—	0 7 0	0 3 0—Nov. 1883
20000	West Canada Mining Company [L.]	1 0 0	—	—	0 5 0	0 5 0—Aug. 1883
45000	Yudana Mutana (cop.), S. A. [L.] [S.E.]	3 0 0	—	—	—	—

## FOREIGN MINES WITH DIVIDENDS IN ABEYANCE.

10000	Altun and Qumangan Unl. (cop.) [L.] [S.E.]	4 10 0	—	—	4 6 0	0 15 0—Nov. 1883
10000	Copaco Mining Company, Chile [L.]	10 0 0	—	—	6 18 0	0 10 0—Nov. 1882
10000	Gt. Barrier Land, Min. Ac. N. Z. [L.] [S.E.]	10 0 0	—	—	0 19 0	0 1 0—Feb. 1884
10000	Lusitania (of Portugal) [S.E.]	2 0 0	—	—	0 9 6	0 1 6—July, 1883
10815	Marquitta and New Granada [S.E.]	1 0 0	—	—	—	—

## NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Last Call.
100000	Anglo-Brazilian (gold) [L. £1] [S.E.]	0 5 0	..	¾	.. Dec. 1863
30000	Antiochia (lead), Spain [L.]	0 17 6	..	¾	.. Mar. 1864
20000	Bearis Tin Streaming Company [L.]	0 17 6	..	¾ 1 ¾	.. Mar. 1863
15000	Cape Copper Mining Company [L. £10] [S.E.]	7 0 0	13	11 ¼ 19 ¾	.. Feb. 1863
25000	Capula (silver), Mexico [L. £2] [S.E.]	1 0 0	..	¾	.. Feb. 1864
17000	Central Italian (copper) [7000 £2 paid]	0 0 0	..	¾	.. Jan. 1863
60000	Clarendon Consols (copper), Jamaica [S.E.]	1 2 6	..	..	.. July, 1862
10000	Copaco Smelting [L.], Chili	10 0 0	..	..	.. Fully paid.
20000	Don Mountain (copper), New Zealand [L.] [S.E.]	1 0 0	..	..	.. Fully paid.
50000	East del Rey (gold), Brazil [L.] [S.E.]	1 19 0	..	..	.. Oct. 1863
20000	East Kongsberg Native Silver Mining Co. [L.] [S.E.]	1 13 0	..	..	.. Dec. 1862
10000	El Chico Mining and Reduction (silver) [L. £5]	3 0 0	..	..	.. Mar. 1864
20000	Elbe Colliery Company, Bohemia [L.]	1 0 0	..	..	.. Fully paid.
30000	Ellerslie and Bardowie (copper), Jamaica	0 18 0	..	..	.. July, 1859
8000	English and Canadian Mining Company [L.]	5 0 0	..	..	.. Fully paid.
40000	Frontino (copper), West Australia [L.]	2 0 0	..	..	.. Fully paid.
20000	Frontino and Bolivia (copper), New Granada [L.] [S.E.]	1 10 0	..	..	.. Mar. 1864
34000	Great Northern (copper), South Australia [L.] [S.E.]	3 0 0	..	..	.. Feb. 1862
14000	Hindustan (copper), Bengal [L. £5]	3 0 0	..	..	.. Feb. 1863
4000	Hope Silver-Lead and Copper Mining Co. [L.], Jamaica	25 0 0	..	..	.. Fully paid.
10000	Karbitz Colliery Company [L.]	1 0 0	..	..	.. Fully paid.
20000	Lagunazo (sulphur), copper, Portugal [L.]	1 0 0	..	..	.. Fully paid.
100000	Montes Aures (gold), Brazil [L.] [S.E.]	2 0 0	9 ¾	2 ¾ 2 ¾	.. Fully paid.
20000	New Mountain (copper), Australia [L.]	0 19 0	..	..	.. Aug. 1862
10000	New Grand Duchy of Baden (silver-lead), near Freiberg	5 0 0	..	..	.. Nov. 1858
60000	North Rhine Copper of South Australia [L.] [S.E.]	0 17 6	..	..	.. Fully paid.
50000	Nova Scotia (land and gold) [L. £2]	1 0 0	..	..	.. Nov. 1862
15000	Pachuca Silver Mining Company, Mexico [L. £1]	1 0 0	..	..	.. June, 1863
80000	Panellio (copper) [L. £4]	1 0 0	..	..	.. Feb. 1864
4000	Pool River Land and Mineral [Limited]	100 0 0	..	..	.. Stock.
20000	Quebec (copper), Venezuela [L.] [S.E.]	4 10 0	..	..	.. Jan. 1864
10000	San Roque (lead), Spain [L.]	0 12 6	..	..	.. Fully paid.
60000	Santa Barbara (gold), Brazil [L.] [S.E.]	0 12 6	¾	¾ ¾	.. Jan. 1864
150000	Scottish Australian Mining Company [L. £1]	0 17 6	..	..	.. Feb. 1864
15000	South Europe Mining Company, Spain [L. £5]	3 0 0	..	..	.. May, 1860
12000	Teplitz Colliery Co., Bohemia [L. £5]	3 0 0	..	..	.. June, 1863
8000	Valgodemard Mining Company [L. £20]	6 0 0	..	..	.. Mar. 1864
40000	Valparaiso (gold), Italy [L.] [S.E.]	0 7 6	..	..	.. Dec. 1863
45000	Victor Emanuel (copper), Italy [L.] [S.E.]	1 0 0	..	..	.. Fully paid.
1000	Western Africa Malachite (copper), [L.]	110 0 0	..	..	.. Oct. 1862
12000	Wheel Eliee (copper), South Australia [L.]	5 0 0	..	..	.. Fully paid.
50000	Worthing (copper), South Australia [L.] [S.E.]	1 0 0	1	¾ 1	.. Fully paid.